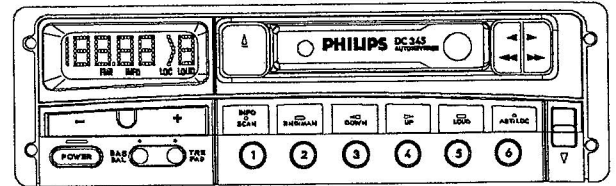


**Cassette car radio 22DC315/02**  
**22DC342/00**  
**22DC345/02**

Service  
Service  
**Service**



For repair information of the Cassette deck see Service Manual of Auto Cassette Deck CDS36 PR

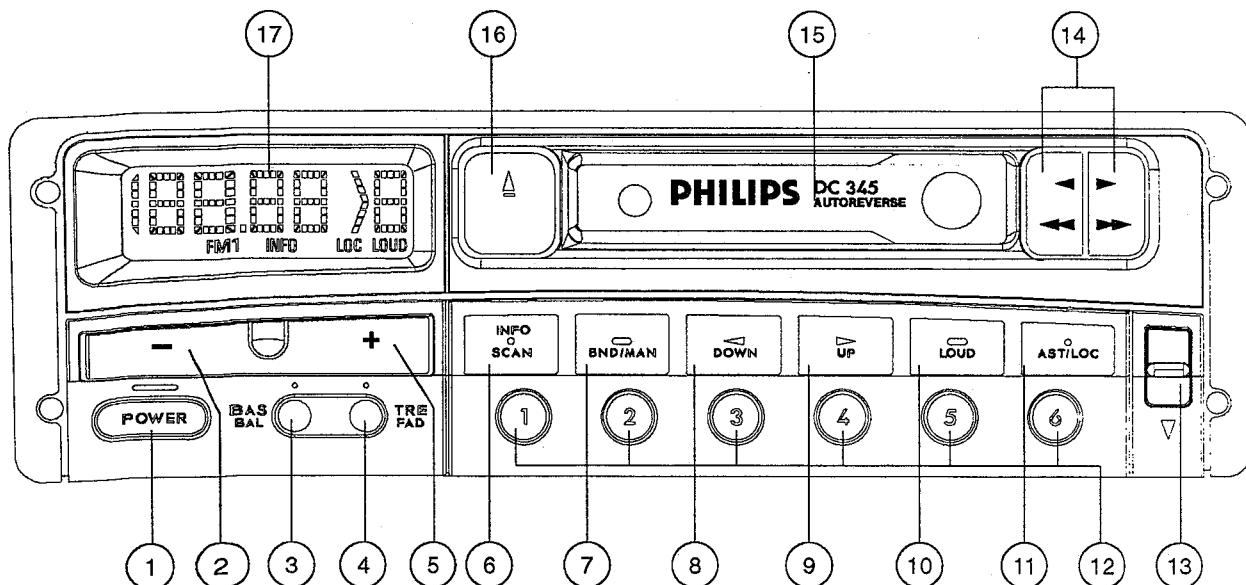
# Service Manual

12 V 

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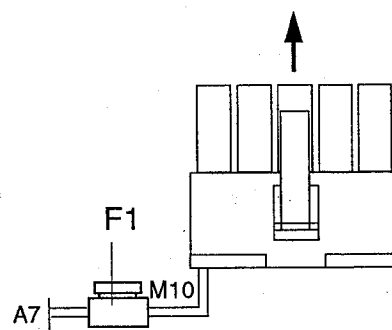
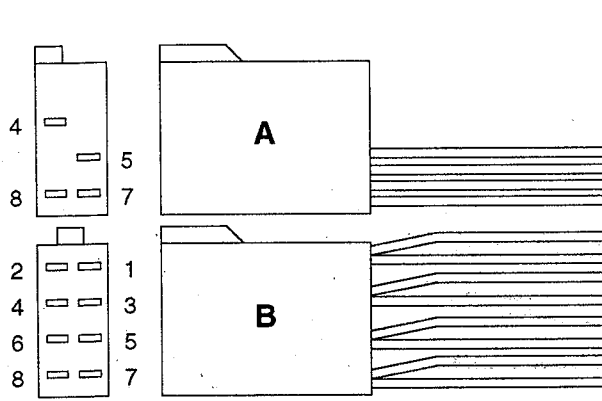
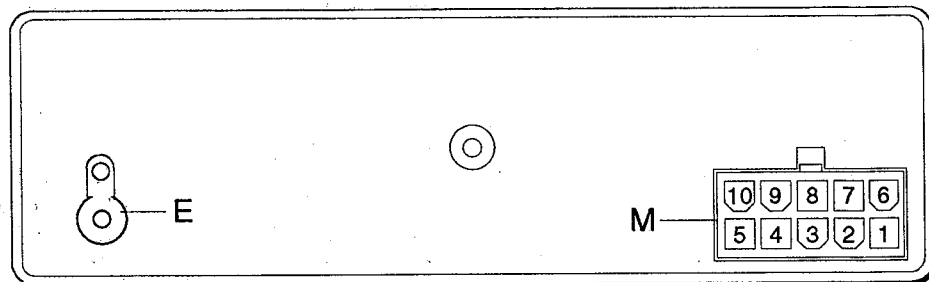
## CONTROLS



- |    |                                       |    |                         |
|----|---------------------------------------|----|-------------------------|
| 1  | On / Off                              | 15 | Cassette Opening + Flap |
| 2  | Volume -                              | 16 | Eject / Reverse Button  |
| 3  | Bass / Balance                        | 17 | Display                 |
| 4  | Treble                                |    |                         |
| 5  | Volume +                              |    |                         |
| 6  | Scan Presets / Info (DC315 and 345)   |    |                         |
| 7  | Band Selection / Manual Search Select |    |                         |
| 8  | Search Down                           |    |                         |
| 9  | Search Up                             |    |                         |
| 10 | Loudness                              |    |                         |
| 11 | Autostore / Local                     |    |                         |
| 12 | Presets / Selection                   |    |                         |
| 13 | Release Knob for detachable unit      |    |                         |
| 14 | Ffw / Frw Buttons                     |    |                         |

22DC315/02  
22DC342/00  
22DC345/02

## CONNECTIONS



A4 = M9 +12V Permanent  
A5 = M4 Automatic Aerial  
A7 = M10 +12V Switched  
A8 = M5 Ground

### Power Supply

Yellow / Red  
Blue  
Red  
Brown

### Loudspeakers

B1 = M7 Rear Right+  
B2 = M8 Rear Right -  
B3 = M3 Front Right+  
B4 = M7 Front Right-  
B5 = M1 Front Left+  
B6 = M2 Front Left-  
B7 = M2 Rear Left+  
B8 = M6 Rear Left -

Blue  
Blue / Black  
Grey  
Grey / Black  
Green  
Green / Black  
Brown  
Brown / Black

E Aerial Plug  
F1 Fuse

Din 41585  
F1 : Fuse 5A

## TECHNICAL DATA

### GENERAL

Power supply :14.4V DC  
Dimensions :180x150x51 mm

### RADIO

LW : 144-288 KHz\*  
MW : 531-1629 KHz\*  
FM : 87.5-108 MHz  
IF-AM : 450 KHz / 10.7 MHz\*  
IF-FM : 10.7 MHz / 72.2 MHz  
Sensitivity 26dB S/N : 24  $\mu$ V (LW)\*  
: 18  $\mu$ V (MW)\*  
: 3.5  $\mu$ V (FM)  
Limitation  $\alpha$ -3dB : 3 to 15  $\mu$ V

### CASSETTE

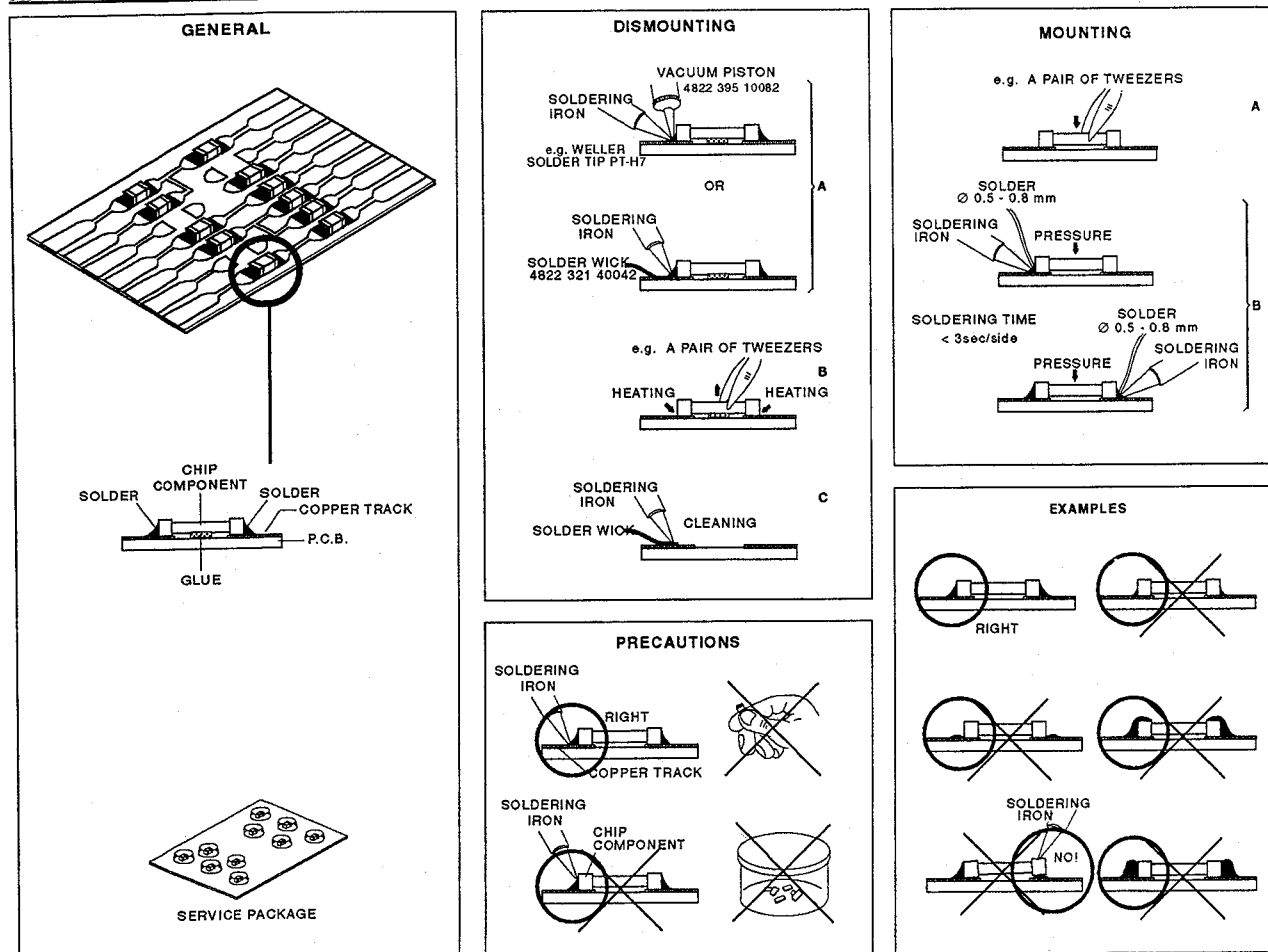
Cassette mechanism :CDS 36 PR  
Number of tracks :2x2  
Tape speed :4.75 cm/sec  
Wow and flutter : $\leq 0.35\%$  (+10° to +45°)  
Crosstalk : $\geq 21$ dB

### AMPLIFIER

Output power :4x5W / 4 $\Omega$  (D = 10%)  
Loudness :+7dB  $\pm$  2dB at 60Hz  
Treble control :+10/-10  $\pm$  2dB at 10kHz  
Bass control :+12/-12  $\pm$  2dB at 60Hz  
Balance control :>12dB  
Fader :>12dB  
Mute :-70dB

(\* Exept 22DC315 )

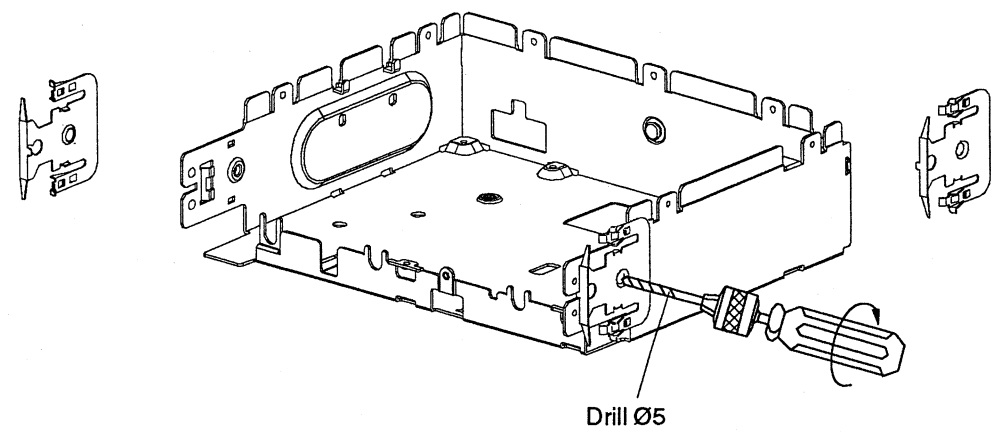
## HANDLING CHIP COMPONENTS



22DC315/02  
22DC342/00  
22DC345/02



**LOCKING SPRING REMOVAL**

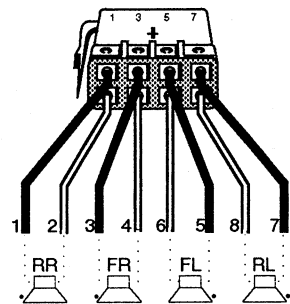


If a Mounting Spring needs to be changed, you have to first eliminate the fastening by drilling it out with a Ø5mm hand-drill

For the fixing of the new one , use a counter-sunk screw Ø3mm, length 5 or 6mm and an M3 nut

**LOUDSPEAKERS CONNECTION**

4 Loudspeakers  
4X4.5W



ESD

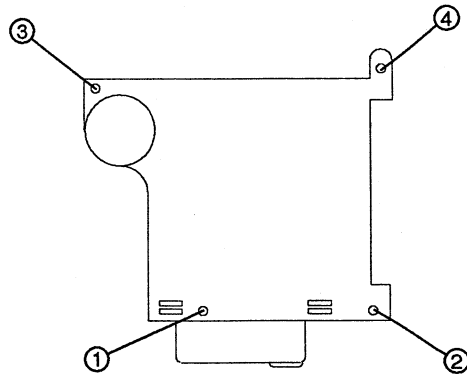


**WARNING**

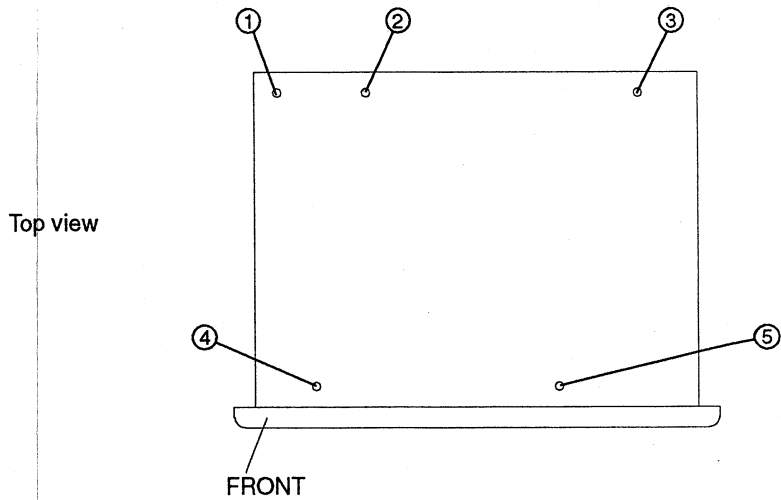
All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.

When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential.

**SCREWING SEQUENCE DECK**



**SCREWING SEQUENCE PWB**

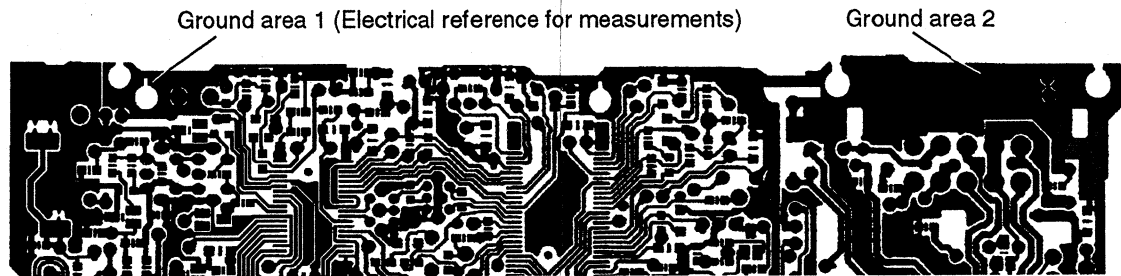


**REMOVING THE PWB**

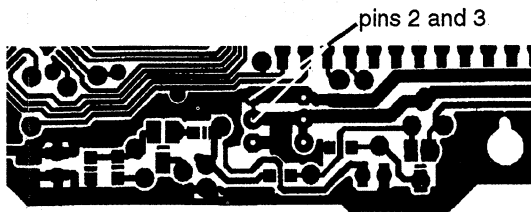
- 1) Disconnect all the cables and flex foils, and disengage the lamp from the light box of the LCD
  - 2) Remove the front
  - 3) Remove the deck (see screwing sequence)
  - 4) Disengage the lamps from the metal frame
  - 5) Remove the transparent LED
  - 6) Remove the bracket of the power IC
  - 7) remove the antenna plug bracket
- Now you can remove the PWB (see screwing sequence)

**CONNECTING THE PWB FOR MEASUREMENTS ON THE COPPER SIDE.**

- 1) Connect a wire (by soldering) between ground areas 1 and 2.
- 2) Short circuit the pins 2 and 3 of the detection switch.
- 3) Reconnect the flat foils of the front and the supply cable. Also reconnect the tape deck.



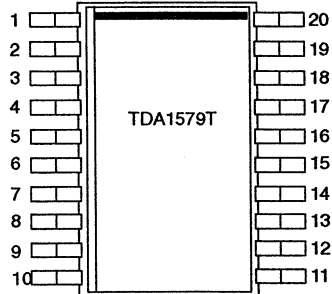
Main PWB copper side



# INTEGRATED CIRCUITS

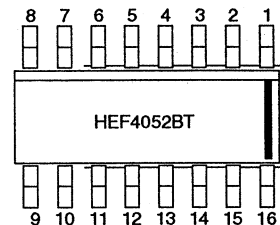
## TDA1579T Decoder for traffic warning radio transmissions

SYMBOL	PIN	DESCRIPTION
SK	1	SK Indicator
DKout	2	DK output current
SKout	3	SK output current
τBK	4	time delay BK
V <sub>SBK</sub>	5	filter output BK
V <sub>SBK</sub>	6	filter input BK
V <sub>P</sub>	7	supply voltage
V <sub>P/2</sub>	8	half supply voltage
V <sub>9SK</sub>	9	SK detector output
n.c.	10	not connected
n.c.	11	not connected
V <sub>12SK</sub>	12	57kHz band pass filter
V <sub>AGC</sub>	13	AGC
I <sub>14</sub>	14	prestige biasing current
V <sub>MPX</sub>	15	MPX input
V <sub>16DK</sub>	16	filter input DK
V <sub>17DK</sub>	17	filter output DK
τDK	18	time delay DK
I <sub>19</sub>	19	reference current for BK, DK detector



## HEF4052BT Dual 4 channel analogue multi/demultiplexer

SYMBOL	PIN	DESCRIPTION
Y <sub>0B</sub>	1	independant input/output 0 <sub>B</sub>
Y <sub>2B</sub>	2	independant input/output 2 <sub>B</sub>
Z <sub>B</sub>	3	common input/output B
Y <sub>3B</sub>	4	independant input/output 3 <sub>B</sub>
Y <sub>1B</sub>	5	independant input/output 1 <sub>B</sub>
E	6	enable input (active LOW)
V <sub>EE</sub>	7	ground
V <sub>SS</sub>	8	ground
A <sub>1</sub>	9	address input 1
A <sub>0</sub>	10	address input 0
Y <sub>3A</sub>	11	independant input/output 3 <sub>A</sub>
Y <sub>0A</sub>	12	independant input/output 0 <sub>A</sub>
Z <sub>A</sub>	13	common input/output A
Y <sub>1A</sub>	14	independant input/output 1 <sub>A</sub>
Y <sub>2A</sub>	15	independant input/output 2 <sub>A</sub>
V <sub>DD</sub>	16	supply

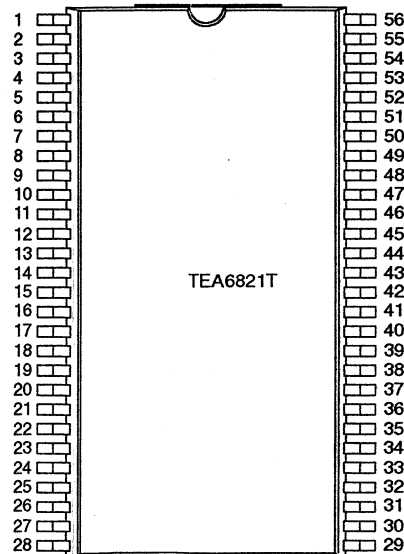


## FUNCTION TABLE

Inputs			channel
E	A <sub>1</sub>	A <sub>0</sub>	ON
L	L	L	Y <sub>0A</sub> -Z <sub>A</sub> ; Y <sub>0B</sub> -Z <sub>B</sub>
L	L	H	Y <sub>1A</sub> -Z <sub>A</sub> ; Y <sub>1B</sub> -Z <sub>B</sub>
L	H	L	Y <sub>2A</sub> -Z <sub>A</sub> ; Y <sub>2B</sub> -Z <sub>B</sub>
L	H	H	Y <sub>3A</sub> -Z <sub>A</sub> ; Y <sub>3B</sub> -Z <sub>B</sub>
H	X	X	none

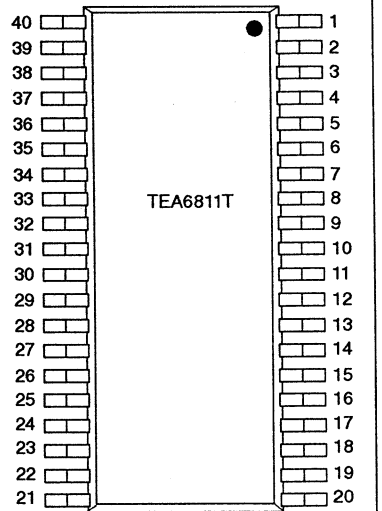
## TEA6821T

SYMBOL	PIN	DESCRIPTION	SYMBOL	PIN	DESCRIPTION
QDET1	1	demodulator tank	FMIFAMP OUT	29	FM-IF amplifier output
QDET2	2	demodulator tank	AFGND	30	AF ground
TSWITCH	3	time switch	DEEMPHR	31	de-emphasis capacitor right
GND	4	analog ground	DEEMPHL	32	de-emphasis capacitor left
VPS	5	5 V supply voltage	AMIF2IN1	33	AM IF2 input1
HFBUS1	6	HF bus, pull-up to 5 V	AMIF2IN2	34	AM IF2 input2
HDBUS2	7	HF bus, pull-up to 5 V	FMIN2	35	FM limiter input
XTAL1	8	crystal oscillator	DCFEED	36	DC feed FM limiter
XTAL2	9	crystal oscillator	FMIN1	37	FM limiter input
FREFP	10	PLL reference frequency	LEVELADJ	38	level adjust
FREFN	11	PLL reference frequency	C <sub>AFC</sub>	39	AFC capacitor
I <sub>REF</sub>	12	reference current	MPBUF	40	multipath buffer time constant
FMIF1IN1	13	70 MHz FM-IF input	OUTLEFT	41	AF output left
FMIF1IN2	14	70 MHz FM-IF input	FMSTOP	42	FMSTOP adjust
TSDR	15	time constant for SDR	RDS/AMSTOP	43	MPX for RDS/AMSTOP adjust
TSDDS	16	time constant for SDS	OUTRIGHT	44	AF output right
V <sub>SDS</sub>	17	SDS control voltage	MPXIN	45	stereo decoder MPX input
V <sub>SDR</sub>	18	SDR control voltage	IAC <sub>IN</sub>	46	IAC input
FMIF2OUT1	19	FM mixer output	MPXOUT	47	FM demodulator MPX output
FMIF2OUT2	20	FM mixer output	AMAFOUT	48	AM demodulator AF output
V <sub>REF</sub>	21	reference voltage	V <sub>MUTAML</sub>	49	mute voltage / AM level
AMIF2OUT1	22	AM mixer output	LEVELUNWEIG	50	level unweighted
AMIF2OUT2	23	AM mixer output	IACCONTR	51	IAC control voltage
FMAMDEC	24	FM/AM 10.7 MHz decoupling	V <sub>PDIG</sub>	52	V <sub>P</sub> digital
PHASEDET	25	phase detector	SDA	53	SDA, pull-up to 5 V
PILDET	26	pilot detector	SCL	54	SCL, pull-up to 5 V
FMAM10.7	27	FM/AM 10.7 MHz input	BUSGND	55	bus ground



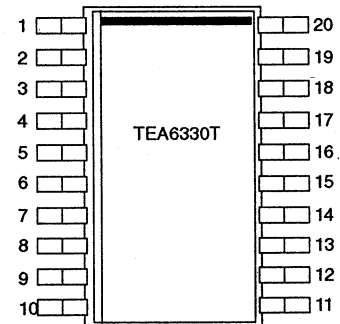
## TEA6811 IC91 RF IC

SYMBOL	PIN	DESCRIPTION	SYMBOL	PIN	DESCRIPTION
GNDANF	1	analog ground 5 V	GNDAMM	21	ground AMMIXER
VCCANF	2	analog supply 5 V	AMPREO	22	AMPREAMP output
LCKDET	3	lock detector flag	NC	23	
SDA	4	I2C bus data	AMSBI	24	AM feedback switch SB1
SCL	5	I2C bus clock	AMSBI	25	AM feedback switch SB2
FREFN	6	ref frequency from I2C N-terminal	AMPREI	26	AMPREAMP input
FREFP	7	ref frequency from I2C P-terminal	AMCAGC	27	AM AGC capacitor
GNDDIF	8	digital ground	AMCPRE	28	AM preamp decoupling capacitor
VCCDIF	9	digital supply 5 V	GNDRF	29	RF ground
NC	10		FMRFIP	30	FM MIXER inputs RF
FMIFON	11	outputs of FM-mixer of first IF (72.2 MHz)	FMRFIN	31	
FMIFOP	12		IPIDIO	32	pin diode drive
VCCE	13	analog supply 8.5 V	FMAGC	33	FM AGC integrating capacitor
GNDE	14	analog ground 8.5 V	REFAGC	34	FM AGC reference voltage
AMMOP	15	outputs of AMMIXER of first IF (10.7 MHz)	OSCFDB	35	oscillator FEEDBACK input
AMMON	16		GNOSC	36	oscillator ground
NC	17		OSCTNK	37	oscillator tank output
AMMIN	18	AMMIXER input RF	VCCOSC	38	supply voltage VCO
VREF	19	reference voltage from AMBANDGAP	VTUNE	39	tuning voltage
NC	20		CHPOUT	40	charge pump output

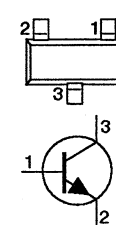


## TEA6330T Sound Fader Control circuit (SOFAC)

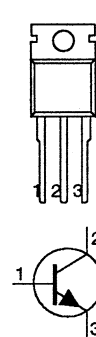
SYMBOL	PIN	DESCRIPTION
C <sub>PS</sub>	1	filtering capacitor for power supply
IN-R	2	audio input signal RIGHT
GND1	3	analog ground (0 V)
C <sub>BR1</sub>	4	capacitor for bass control RIGHT and signal to equalizer
C <sub>BR2</sub>	5	capacitor for bass control RIGHT
C <sub>TR</sub>	6	capacitor for treble control RIGHT, input signal for equalizer RIGHT
QRR	7	right audio output signal of rear channel
QRF	8	right audio output signal of front channel
MUTE	9	input to set mute externally
GND2	10	digital ground (0 V) for bus control
SCL	11	clock signal of I <sup>2</sup> C-bus
SDA	12	data signal of I <sup>2</sup> C-bus
QLF	13	left audio output signal of front channel
QLR	14	left audio output signal of rear channel
C <sub>TL</sub>	15	capacitor for treble control LEFT, input signal for equalizer LEFT
C <sub>BL2</sub>	16	capacitor for bass control LEFT
C <sub>BL1</sub>	17	capacitor for bass control LEFT and signal to equalizer
V <sub>P</sub>	18	+8.5 V supply voltage
IN-L	19	audio input signal LEFT
V <sub>ref</sub>	20	reference voltage output (V <sub>P</sub> /2)

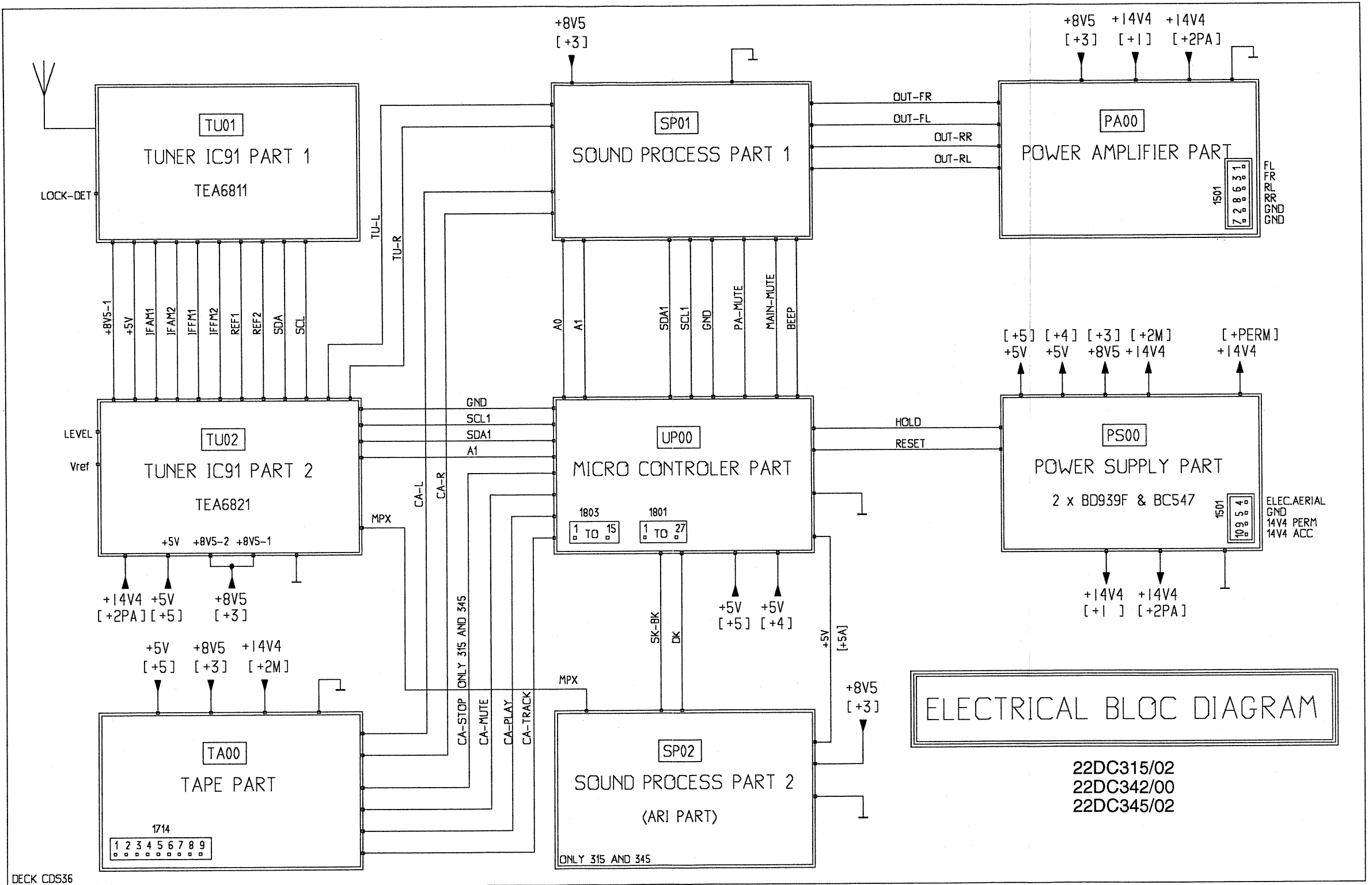


## BC847B / BF840



## BD939 / ON4694





# DC VOLTAGES

## 7202 TEA6811V

1 = GND	21 = GND
2 = 3.0 V	22 = 1.8 V
3 = 4.9 V	23 = GND
4 = 5.1 V SDA	24 = 0.1 V
5 = 5.1 V SCL	25 = 0.2 V
6 = 5.0 V	26 = 2.8 V
7 = 4.9 V	27 = 0.1 V
8 = GND	28 = 0.1 V
9 = 5.2 V	29 = GND
10 = GND	30 = 3.1 V
11 = 8.5 V	31 = 3.1 V
12 = 8.5 V	32 = 0.0 V
13 = 8.5 V	33 = 4.2 V
14 = GND	34 = 4.2 V
15 = 8.4 V	35 = 2.6 V
16 = 8.4 V	36 = GND
17 = GND	37 = 6.2 V
18 = 0.1 V	38 = 8.4 V
19 = 0.0 V	39 = 3.0 V
20 = GND	40 = 3.0 V

## 7300 TEA6821T/V2

1 = 4.0 V	29 = 6.2 V
2 = 4.0 V	30 = 1.8 V
3 = 0.8 V	31 = 2.3 V
4 = GND	32 = 2.3 V
5 = 5.0 V	33 = 0.7 V
6 = 5.0 V SDA	34 = 1.0 V
7 = 5.0 V SCL	35 = 2.7 V
8 = 61.5 MHz	37 = 2.7 V
9 = 61.5 MHz	37 = 2.7 V
10 = 5.0 V	38 = 1.7 V
11 = 4.9 V	39 = 3.3 V
12 = 4.2 V	40 = 0.7 V
13 = 2.3 V	41 = 3.5 V
14 = 2.3 V	42 = 1.9 V
15 = N.C.	43 = 3.0 V
16 = 5.0 V	44 = 3.4 V
17 = 2.5 V	45 = 2.8 V
18 = 1.4 V	46 = 3.2 V
19 = 8.4 V	47 = 3.2 V
20 = 8.4 V	48 = 4.5 V
21 = 5.0 V	49 = 5.0 V
22 = 8.5 V	50 = 5.2 V
23 = 8.5 V	51 = 4.9 V
24 = 3.0 V	52 = 5.1 V
25 = 4.7 V	53 = 5.1 V
26 = 2.7 V	54 = 5.1 V
27 = 2.9 V	55 = GND
28 = 8.5 V	56 = 8.5 V

## 7401 HEF 4052BT

1 = 3.9 V	9 = GND
2 = GND	10 = 6.4 V
3 = 3.9 V	11 = GND
4 = GND	12 = 3.9 V
5 = 3.9 V	13 = 3.9 V
6 = GND	14 = 3.9 V
7 = GND	15 = GND
8 = GND	16 = 7.7 V

## 7402 TDA7374V

1 = 7.0 V	9 = GND
2 = 7.0 V	10 = N.C.
3 = 14.4 V	11 = 0.7 V
4 = 0.7 V	12 = 0.7 V
5 = 0.7 V	13 = 14.4 V
6 = 0.7 V	14 = 7.0 V
7 = 6.6 V	15 = 7.0 V
8 = Earth	

## 7602 HEF 4052BT

1 = 3.4 V	9 = 0.0 V
2 = 5.5 V	10 = 0.0 V
3 = 3.4 V	11 = 3.4 V
4 = 3.4 V	12 = 3.5 V
5 = 3.8 V	13 = 3.4 V
6 = GND	14 = 3.9 V
7 = GND	15 = 5.5 V
8 = GND	16 = 7.7 V

## 7605 TEA 6330

1 = 7.7 V	11 = 5.1 V SCL
2 = 3.8 V	12 = 5.1 V SDA
3 = GND	13 = 3.9 V
4 = 3.9 V	14 = 3.9 V
5 = 3.9 V	15 = 3.9 V
6 = 3.9 V	16 = 3.9 V
7 = 3.9 V	17 = 3.9 V
8 = 3.9 V	18 = 7.7 V
9 = 7.7 V	19 = 3.9 V
10 = GND	20 = 3.9 V

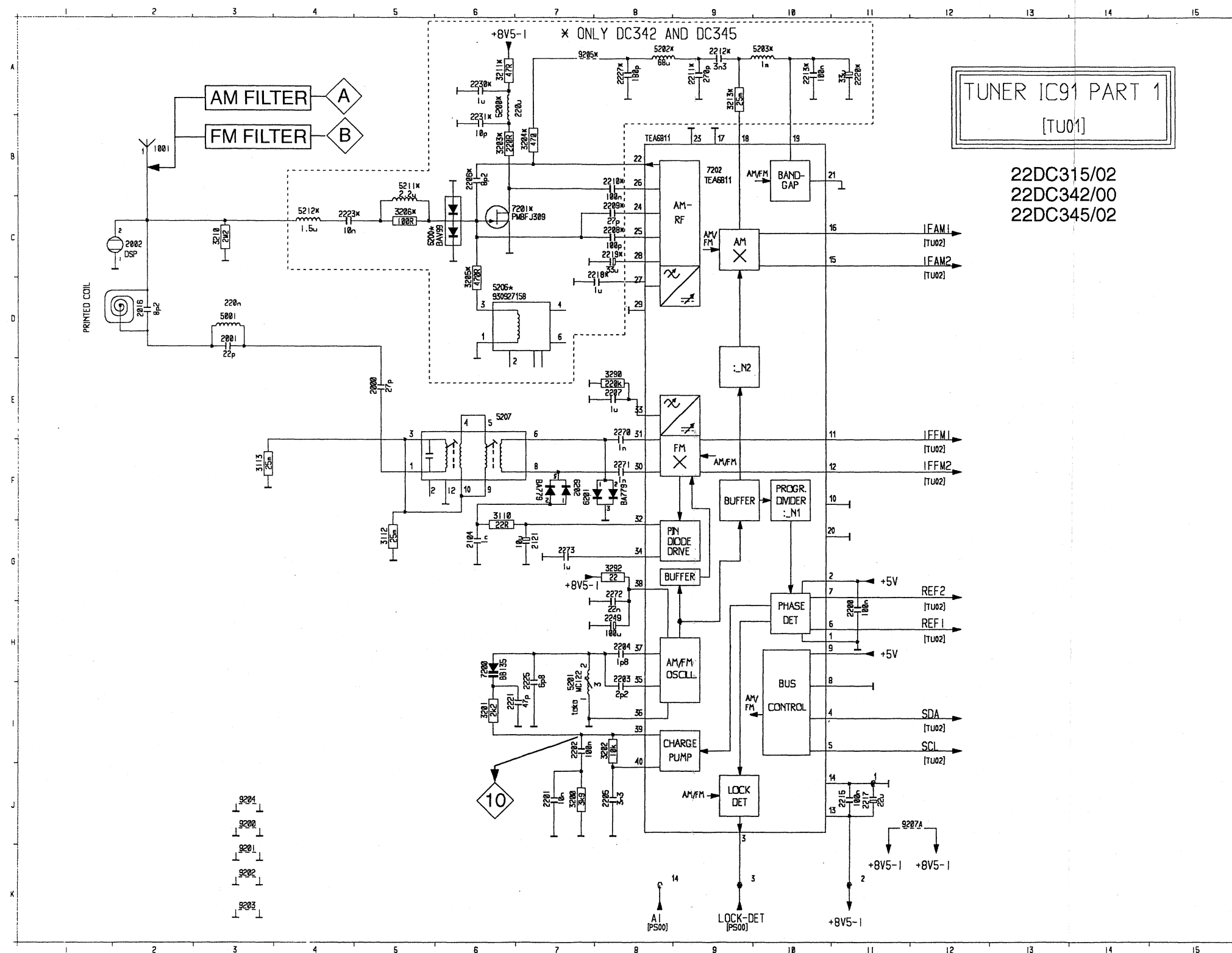
# CHECK AND ALIGNMENT

For checking and adjusting see general procedures

Check	SK				Setting of controls		
Demodulated FM levels	FM	98 MHz 1 mV $\Delta f = 22.5$ KHz $f_{mod} = 1$ KHz				210 mV $\pm$ 40 mV	
		98 MHz 1 mV $\Delta f = 6.75$ KHz $f_{mod} = 19$ KHz				60 mV $\pm$ 10 mV	
		98 MHz 1 mV $\Delta f = 3.75$ KHz $f_{mod} = 57$ KHz				30 mV $\pm$ 10 mV	
Demodulated AM level (Only 342 and 345)	MW	1053 KHz 1 mV 1 KHz, 30% AM				250 mV $\leq$ $\leq$ 350 mV	
VC FM	FM			87.5 MHz		> 1.2 V	
				108 MHz		< 5.5 V	
VC AM (Only 342 and 345)	LW			144 KHz		> 1.2 V	
	MW			1611 KHz		< 7.0 V	
FM Mute	FM	93 MHz 1mV				0 dB (775 mV)	
		No signal				< -10 dB	
0 Discriminator						3.4 V $\pm$ 400 mV	
Reference oscillator frequencies						61.5 MHz $\pm$ 3kHz	
						6 MHz $\pm$ 0.5%	
						6 MHz $\pm$ 0.5%	

Alignment	SK					
	FM	88 MHz 20 $\mu$ V no AF signal		88 MHz	5201	1.35 V $\pm$ 50 mV
	FM	93 MHz <20 $\mu$ V no AF signal		93 MHz	5209 5210	Max DC voltage on pin 50 of IC 7300
	FM	93 MHz 20 $\mu$ V no AF signal		93 MHz	5208	Max DC voltage on pin 50 of IC 7300
	AM (Only 342 and 345)	1053 KHz 70 $\mu$ V 1 KHz 30%		1053 KHz	5301	Max DC voltage on pin 50 of IC 7300
Audio limiting	FM	98 MHz 1 mV $\Delta f = 22.5$ KHz $f_{mod} = 1$ KHz				0 dB (775 mV)
		98 MHz 6 $\mu$ V $\Delta f = 22.5$ KHz $f_{mod} = 1$ KHz			3321	-3 dB

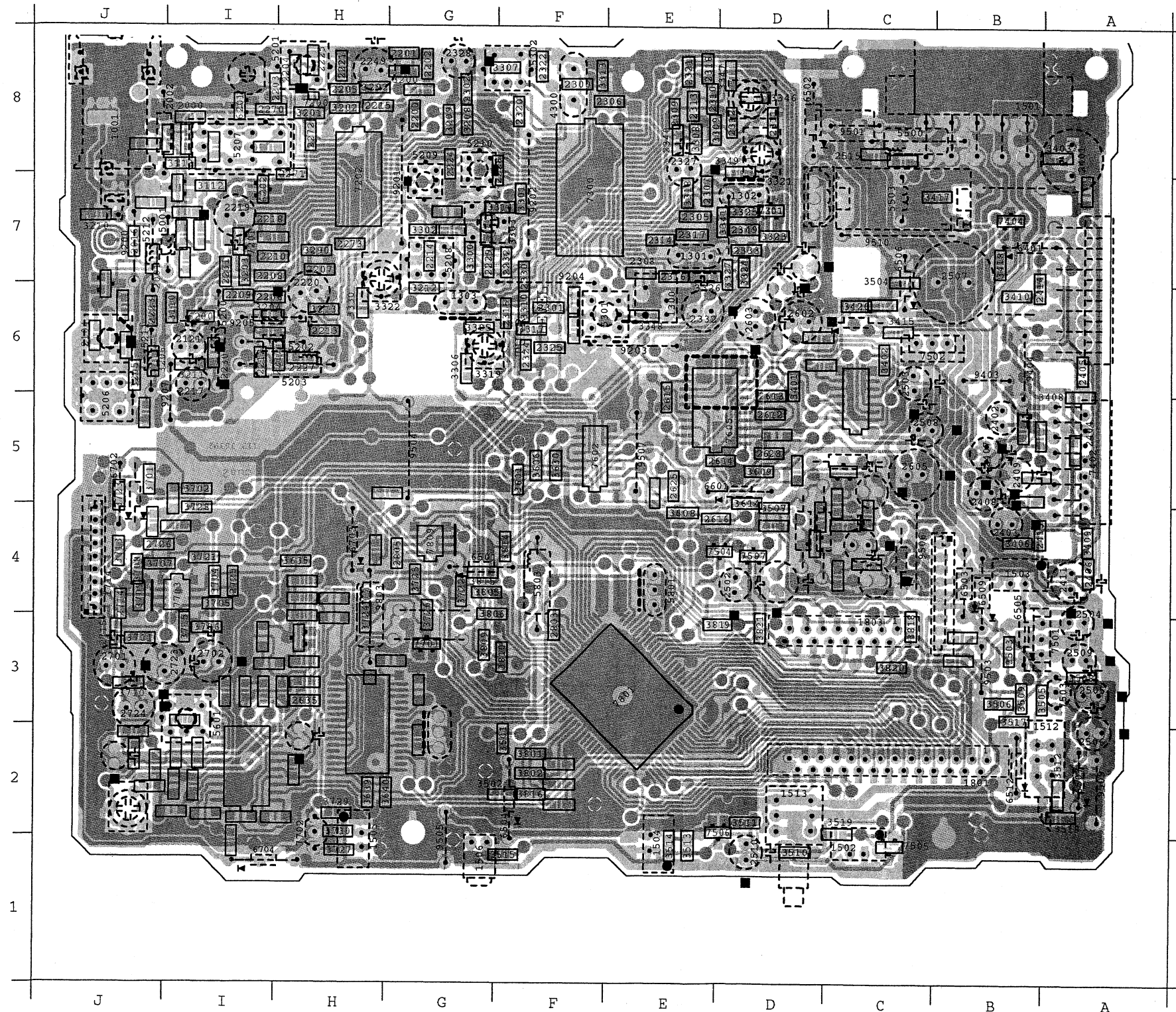
22DC315/02  
22DC342/00  
22DC345/02





1301 E 7	2328 G 8	2503 C 6	2605 C 5	5801 E 4	5212 J 7	6506 C 7	9202 F 7	9504 G 5	1501 B 8	1801 B 2	5209 G 7
1302 D 7	2332 E 6	2504 A 3	2701 J 3	7503 A 3	5500 C 8	6507 A 2	9203 E 6	9505 G 1	1502 C 1	1803 C 3	5210 G 8
1303 G 6	2402 B 5	2505 A 3	2702 I 3	7702 H 2	5803 F 4	6509 B 4	9204 F 7	9506 C 4	1503 B 4	2401 A 8	5301 F 6
2121 I 6	2403 B 4	2506 A 2	2723 J 3	2002 J 8	6401 B 7	6512 B 2	9205 I 6	9507 E 5	1504 E 1	2507 B 7	5302 F 8
2217 I 6	2407 B 5	2508 C 5	2724 J 3	5001 I 7	6501 G 4	6601 D 5	9207 I 6	9509 A 2	1505 H 2	3303 G 7	5503 C 7
2219 I 7	2408 B 5	2509 A 3	3319 G 6	5200 I 6	6502 D 8	6702 J 5	9403 B 6	9510 C 7	1506 G 1	5201 H 8	5601 I 3
2220 H 6	2409 B 5	2510 D 1	3321 D 8	5202 I 6	6503 B 4	6703 H 4	9404 B 6	9803 H 3	1512 B 2	5206 J 5	7402 A 5
2249 H 8	2411 A 4	2602 D 6	3322 H 7	5203 H 6	6504 F 2	9200 J 7	9501 C 8	1001 J 8	1513 D 2	5207 I 8	7501 A 3
2327 E 8	2502 D 4	2603 D 6	4300 F 8	5211 J 6	6505 B 3	9201 G 7	9503 B 3	1300 E 6	1714 J 4	5208 G 7	7502 C 6

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22DC342/00  
22DC345/02



2000 I 8	2725 I 4	3608 E 4
2001 J 7	2726 J 4	3609 D 5
2016 J 7	2803 F 3	3614 D 5
2104 J 6	2805 G 4	3630 F 5
2200 G 8	3110 I 6	3635 H 4

2201 G 8	3112 I 7	3639 H 2
2202 G 8	3113 I 8	3640 G 2
2203 H 8	3200 G 8	3701 J 5
2204 H 8	3201 H 8	3702 I 5
2205 H 8	3202 H 8	3704 I 4

2206 I 6	3203 I 7	3705 I 4
2207 H 7	3204 I 6	3706 I 3
2208 I 7	3205 J 6	3707 J 4
2209 I 6	3206 J 6	3708 J 4
2210 I 7	3208 G 8	3709 J 4

2211 H 6	3209 G 8	3710 J 3
2212 I 6	3210 J 7	3711 J 3
2213 H 6	3211 I 6	3713 J 4
2214 G 7	3212 G 6	3715 I 3
2215 H 8	3213 H 6	3721 I 4

2218 I 7	3290 H 7	3722 G 4
2221 H 8	3292 H 8	3723 J 5
2223 J 6	3300 G 7	3724 H 3
2224 G 8	3301 F 7	3725 G 4
2225 H 8	3302 G 7	3726 G 3

2227 H 6	3305 G 6	3727 H 1
2228 F 8	3306 G 6	3728 I 4
2229 G 7	3307 F 8	3729 H 2
2230 I 6	3308 E 8	3730 H 2
2231 I 7	3309 E 8	3801 F 2

2232 F 7	3310 F 6	3802 F 2
2270 I 8	3313 F 8	3805 G 4
2271 H 7	3314 F 7	3806 G 3
2272 H 8	3317 F 6	3809 G 3
2273 H 7	3318 E 7	3810 F 3

2300 F 8	3323 D 7	3814 F 4
2301 F 6	3324 D 7	3815 G 4
2302 G 8	3325 D 7	3816 F 2
2305 E 7	3326 E 7	3818 C 3
2306 E 8	3327 D 7	3819 D 3

2307 E 7	3330 H 6	3820 C 3
2308 E 7	3341 D 7	3821 D 3
2309 E 8	3346 D 8	6200 I 6
2310 E 8	3347 D 8	6201 I 8
2311 D 8	3348 E 6	6202 I 7

2312 D 8	3349 D 8	7200 H 8
2313 E 8	3401 D 6	7201 I 7
2314 E 7	3402 C 6	7202 H 7
2315 F 6	3403 A 8	7300 F 7
2316 E 7	3406 B 4	7301 D 7

2317 E 7	3408 A 5	7404 B 7
2318 E 8	3409 A 4	7504 D 4
2320 F 8	3410 B 6	7505 C 1
2321 E 8	3415 C 6	7506 D 2
2322 F 8	3417 B 7	7507 D 4

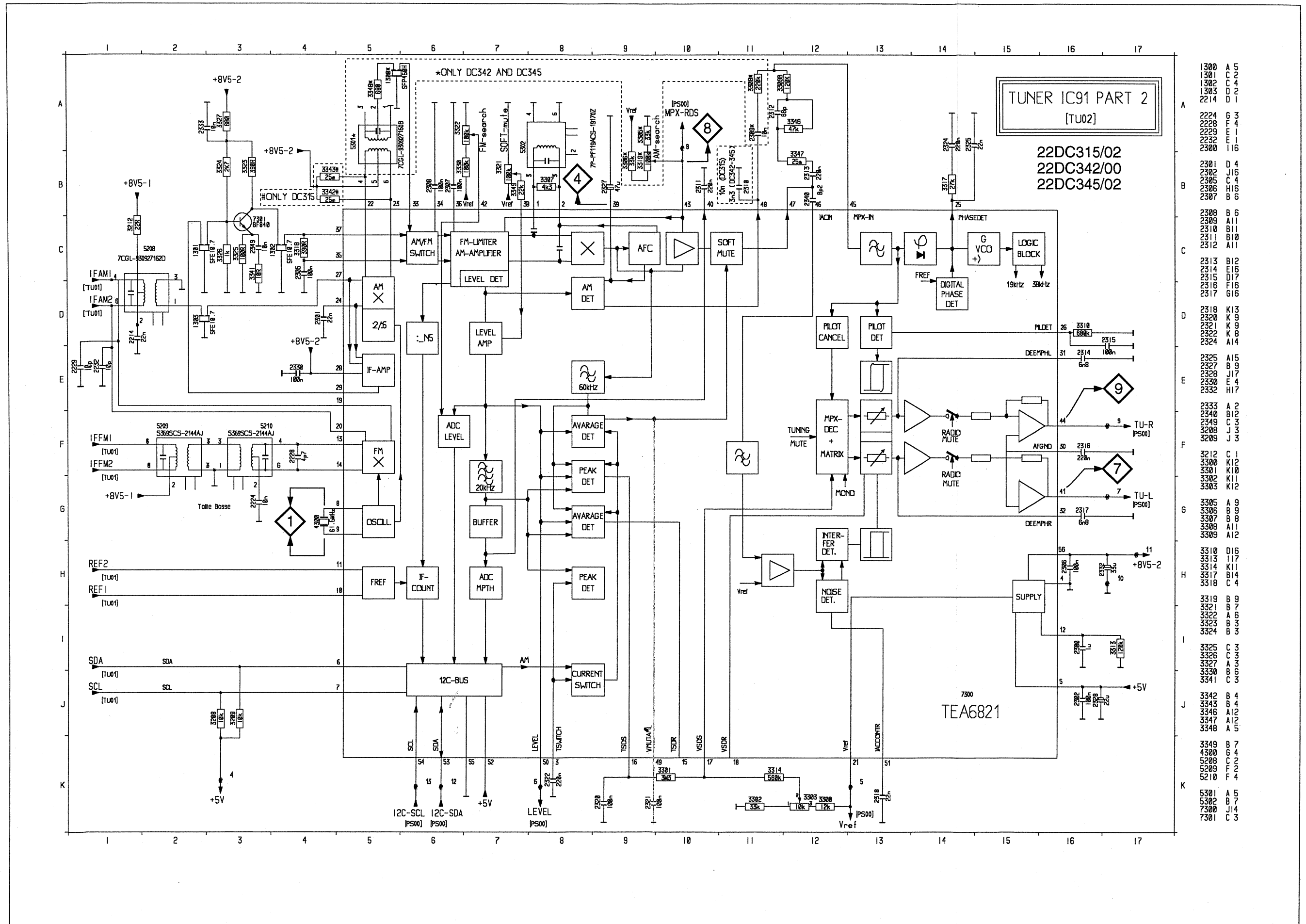
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2325 F 6	3420 C 6	7605 E 5
2330 F 7	3501 F 2	7701 G 3
2333 D 7	3502 F 2	7703 I 4
2340 E 8	3503 B 3	7801 E 3

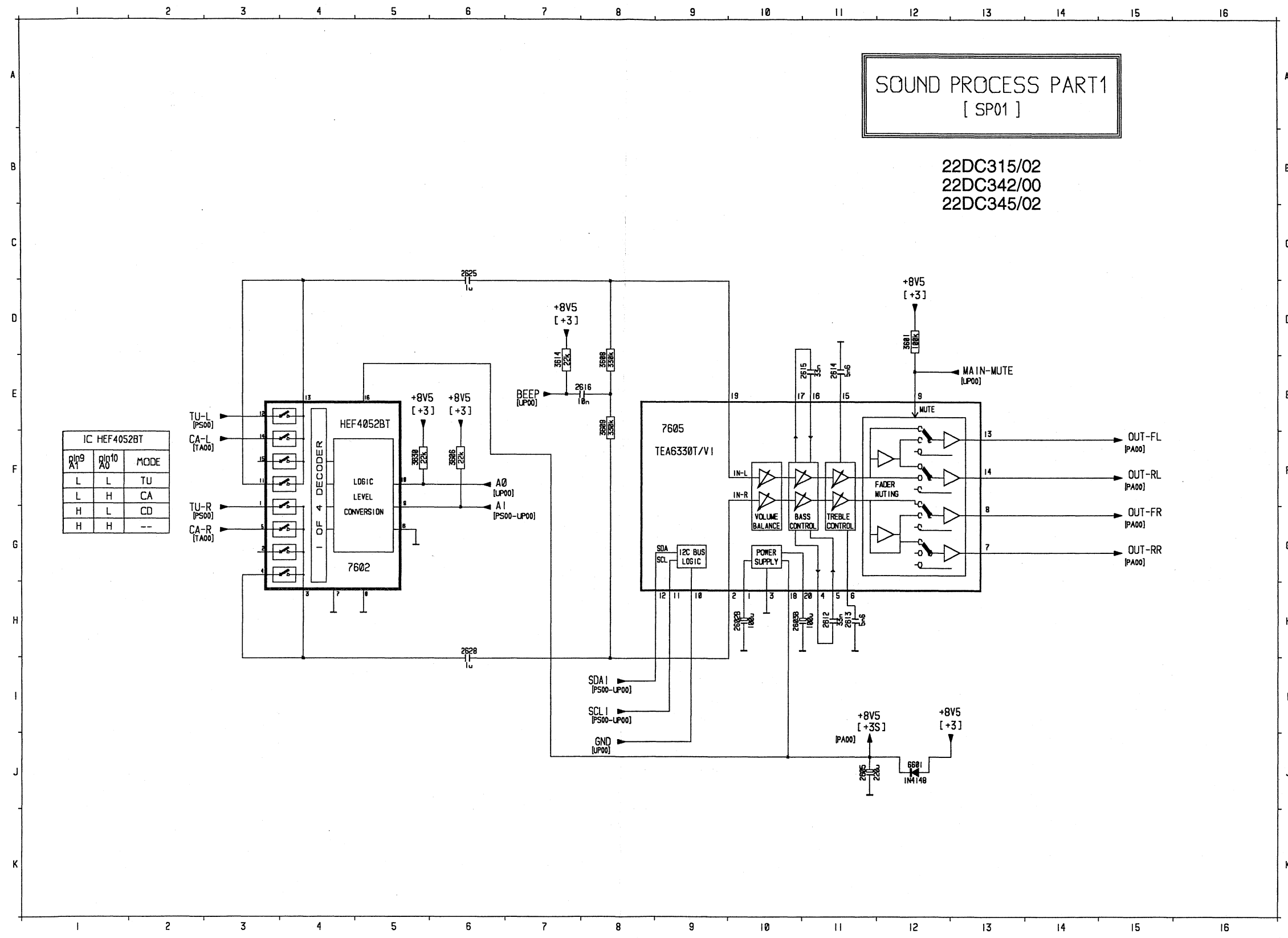
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2406 A 4	3507 D 4	
2413 B 4	3508 A 3	

2414 B 6	3509 B 3	
2515 C 8	3510 D 1	
2612 D 5	3511 D 2	
2613 D 5	3512 A 2	
2614 D 5	3513 E 1	

2615 E 5	3514 E 1	
2616 D 4	3515 F 1	
2625 E 5	3517 B 3	
2628 D 5	3518 A 2	
2635 H 3	3519 C 2	

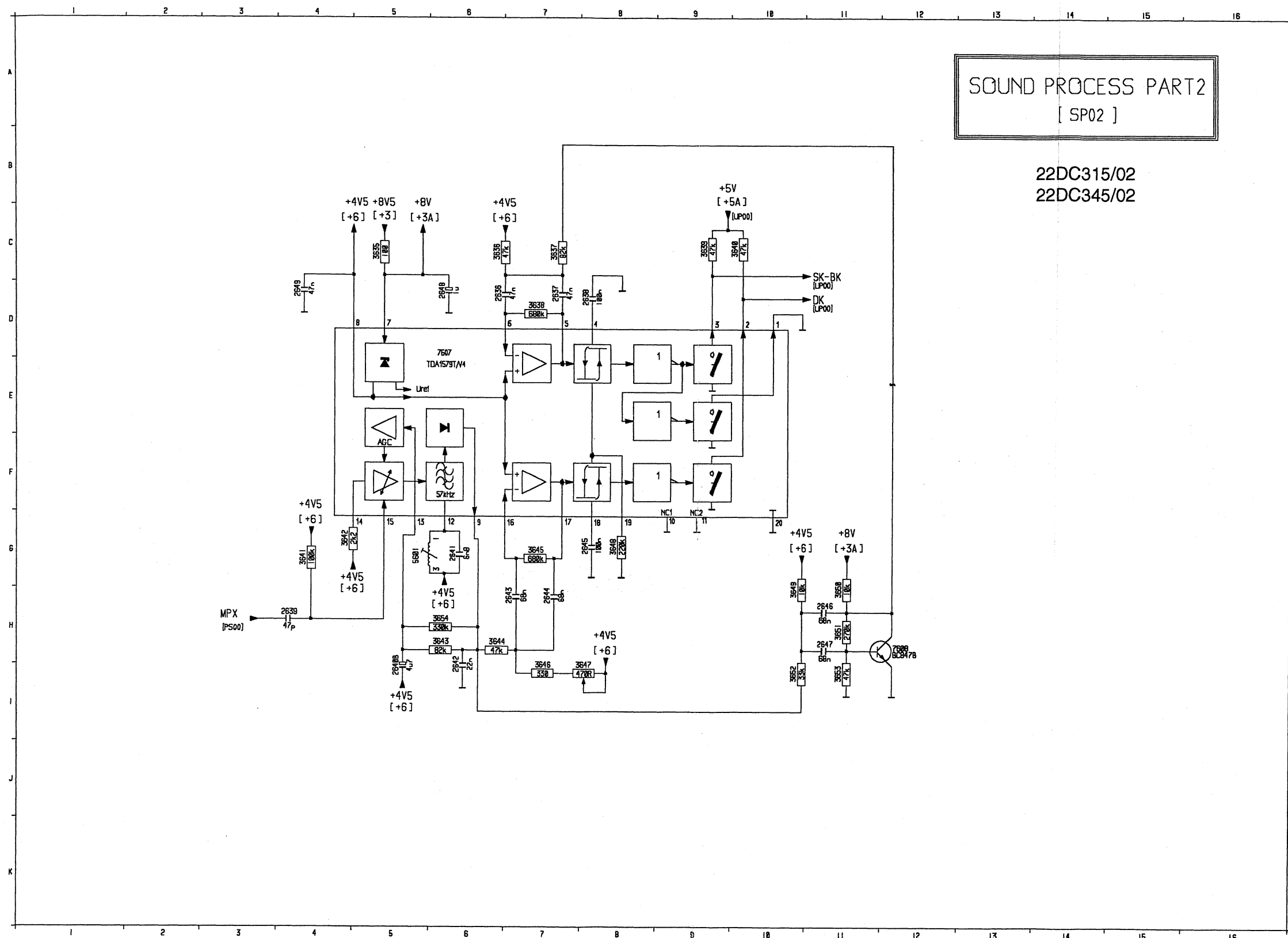
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2715 J 3	3606 F 5	



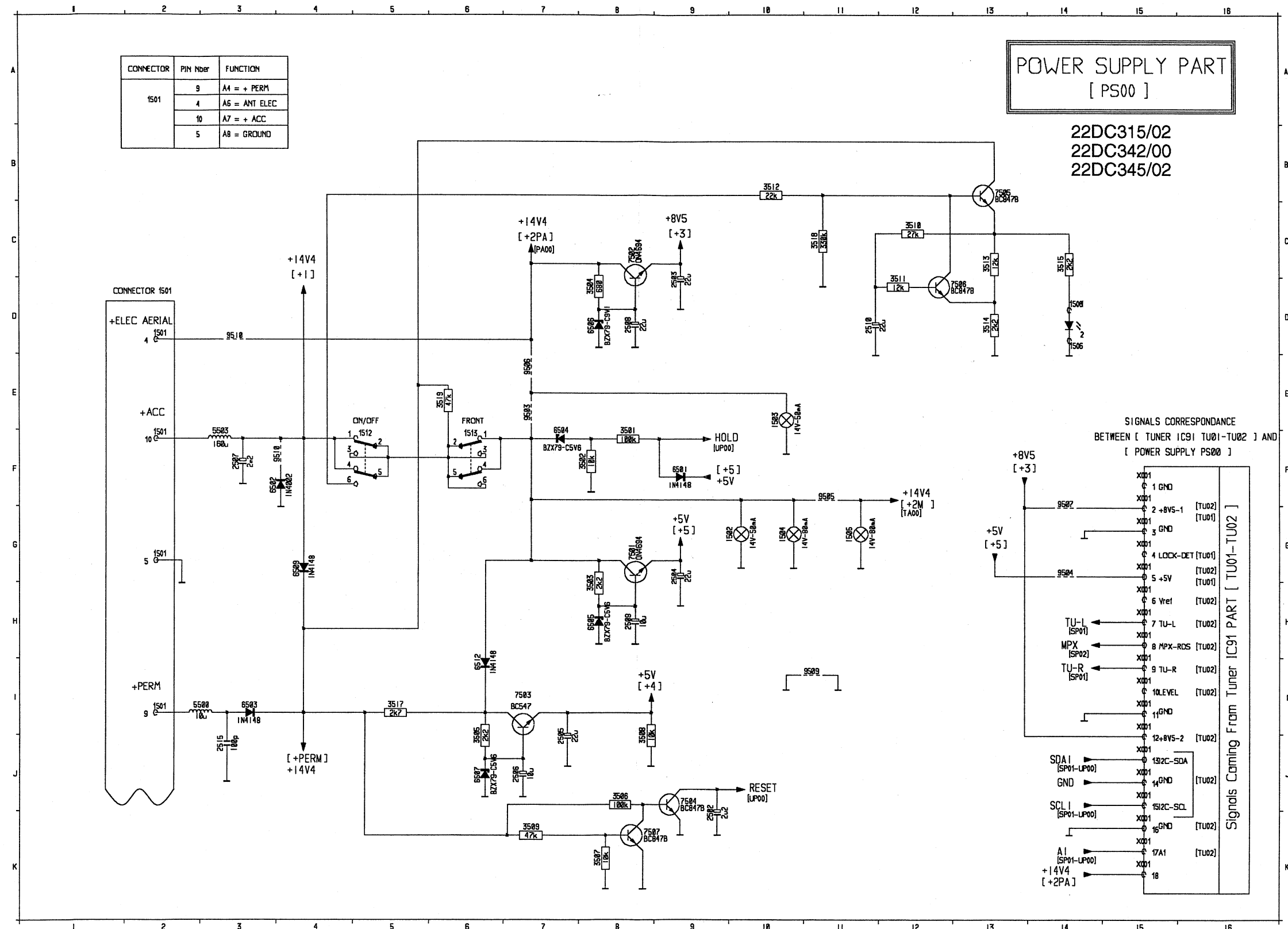


- 2602 H10
- 2603 H11
- 2605 J11
- 2612 H11
- 2613 H11
- 2614 E11
- 2615 E11
- 2616 E8
- 2625 D6
- 2628 I6
- 3601 D12
- 3606 F6
- 3608 E8
- 3609 E8
- 3614 E7
- 3630 F5
- 6601 J12
- 7602 G5
- 7605 F9





2636	D 6
2637	D 7
2638	D 8
2639	H 4
2640	I 5
2641	G 6
2642	I 6
2643	H 7
2644	H 7
2645	G 8
2646	H 11
2647	H 11
2648	D 6
2649	D 4
2650	C 5
3636	C 6
3637	C 7
3638	D 7
3639	C 9
3640	C 10
3641	G 4
3642	G 4
3643	H 6
3644	H 6
3645	G 7
3646	I 7
3647	I 8
3648	G 8
3649	H 10
3650	H 11
3651	H 11
3652	I 10
3653	I 11
3654	H 6
5601	G 5
7607	D 5
7608	H 12



1501 F 2  
1502 G10  
1503 E10  
1504 G10  
1505 G11

1506 D14  
1506 D14  
1512 F5  
1513 F6  
2502 K 9

2503 D 9  
2504 G 9  
2505 J 7  
2506 J 7  
2507 F 3

2508 D 8  
2509 H 8  
2510 D11  
2515 J 8  
3501 F 8

3502 F 8  
3503 H 8  
3504 D 8  
3505 J 8  
3506 J 8

3507 K 8  
3508 J 8  
3509 K 7  
3510 C12  
3511 D12

3512 B10  
3513 C13  
3514 D13  
3515 C14  
3517 I 5

3518 C11  
3519 E 6  
5500 I 3  
5503 F 3  
6501 F 9

6502 F 3  
6503 I 3  
6504 F 7  
6505 H 8  
6506 D 8

6507 J 6  
6509 G 4  
6512 I 6  
7501 C 8  
7502 C 8

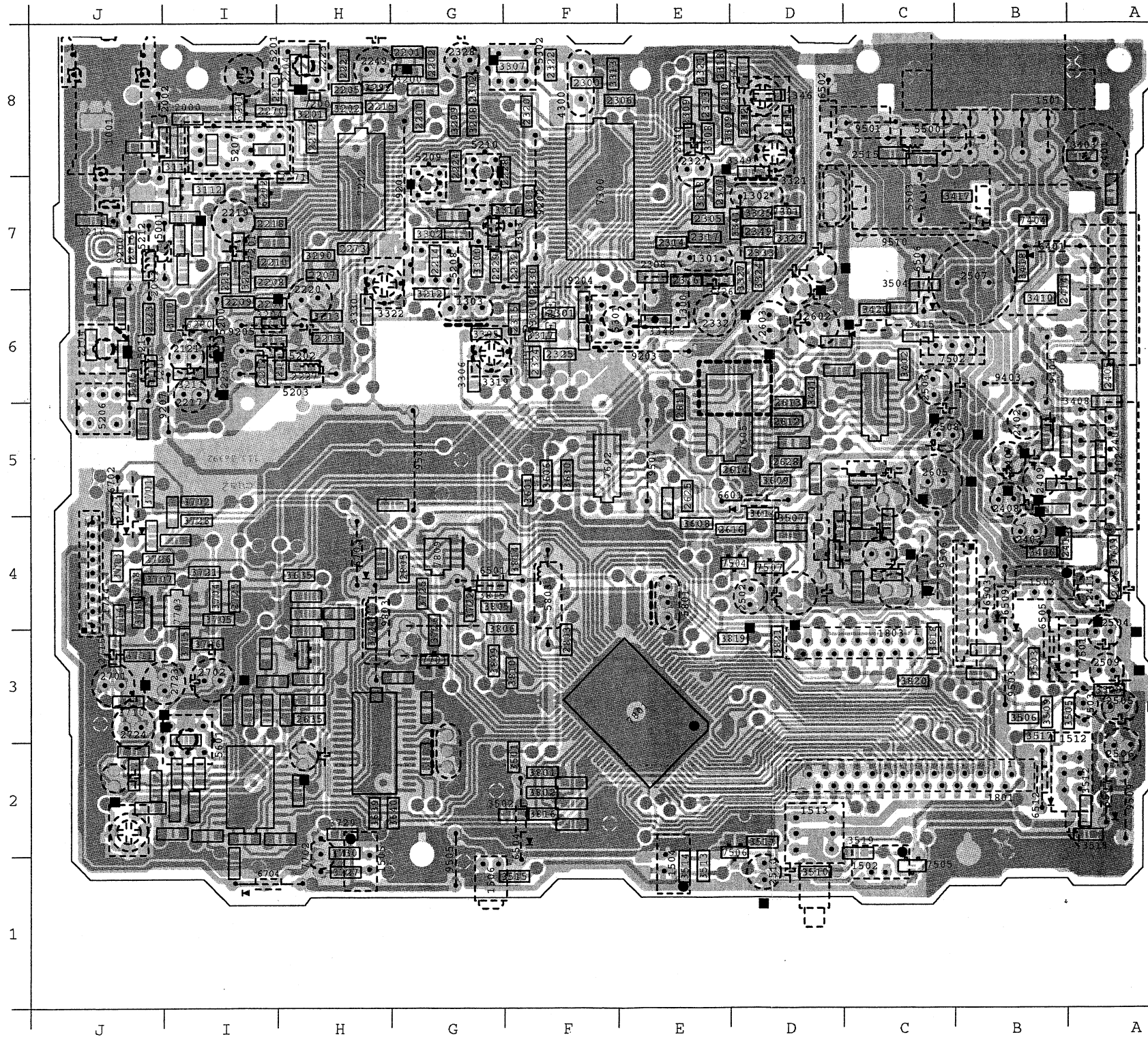
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7505 D13  
7506 D13  
7507 K 8

9501 D 3  
9503 E 7  
9504 G14  
9505 F11  
9506 E 7

9507 G14  
9509 I11  
9510 F 4  
X001 F15

1301 E 7	2328 G 8	2503 C 6	2605 C 5	5801 E 4	5212 J 7	6506 C 7	9202 F 7	9504 G 5	1501 B 8	1801 B 2	5209 G 7
1302 D 7	2332 E 6	2504 A 3	2701 J 3	7503 A 3	5500 C 8	6507 A 2	9203 E 6	9505 G 1	1502 C 1	1803 C 3	5210 G 8
1303 G 6	2402 B 5	2505 A 3	2702 I 3	7702 H 2	5803 F 4	6509 B 4	9204 F 7	9506 C 4	1503 B 4	2401 A 8	5301 F 6
2121 I 6	2403 B 4	2506 A 2	2723 J 3	2002 J 8	6401 B 7	6512 B 2	9205 I 6	9507 E 5	1504 E 1	2507 B 7	5302 F 8
2217 I 6	2407 B 5	2508 C 5	2724 J 3	5001 I 7	6501 G 4	6601 D 5	9207 I 6	9509 A 2	1505 H 2	3303 G 7	5503 C 7
2219 I 7	2408 B 5	2509 A 3	3319 G 6	5200 I 6	6502 D 8	6702 J 5	9403 B 6	9510 C 7	1506 G 1	5201 H 8	5601 I 3
2220 H 6	2409 B 5	2510 D 1	3321 D 8	5202 I 6	6503 B 4	6703 H 4	9404 B 6	9803 H 3	1512 B 2	5206 J 5	7402 A 5
2249 H 8	2411 A 4	2602 D 6	3322 H 7	5203 H 6	6504 F 2	9200 J 7	9501 C 8	1001 J 8	1513 D 2	5207 I 8	7501 A 3
2327 E 8	2502 D 4	2603 D 6	4300 F 8	5211 J 6	6505 B 3	9201 G 7	9503 B 3	1300 E 6	1714 J 4	5208 G 7	7502 C 6

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22DC342/00  
22DC345/02



2000 I 8	2725 I 4	3608 E 4
2001 J 7	2726 J 4	3609 D 5
2016 J 7	2803 F 3	3614 D 5
2104 J 6	2805 G 4	3630 F 5
2200 G 8	3110 I 6	3635 H 4

2201 G 8	3112 I 7	3639 H 2
2202 G 8	3113 I 8	3640 G 2
2203 H 8	3200 G 8	3701 J 5
2204 H 8	3201 H 8	3702 I 5
2205 H 8	3202 H 8	3704 I 4

2206 I 6	3203 I 7	3705 I 4
2207 H 7	3204 I 6	3706 I 3
2208 I 7	3205 J 6	3707 J 4
2209 I 6	3206 J 6	3708 J 4
2210 I 7	3208 G 8	3709 J 4

2211 H 6	3209 G 8	3710 J 3
2212 I 6	3210 J 7	3711 J 3
2213 H 6	3211 I 6	3713 J 4
2214 G 7	3212 G 6	3715 I 3
2215 H 8	3213 H 6	3721 I 4

2218 I 7	3290 H 7	3722 G 4
2221 H 8	3292 H 8	3723 J 5
2223 J 6	3300 G 7	3724 H 3
2224 G 8	3301 F 7	3725 G 4
2225 H 8	3302 G 7	3726 G 3

2227 H 6	3305 G 6	3727 H 1
2228 F 8	3306 G 6	3728 I 4
2229 G 7	3307 F 8	3729 H 2
2230 I 6	3308 E 8	3730 H 2
2231 I 7	3309 E 8	3801 F 2

2232 F 7	3310 F 6	3802 F 2
2270 I 8	3313 F 8	3805 G 4
2271 H 7	3314 F 7	3806 G 3
2272 H 8	3317 F 6	3809 G 3
2273 H 7	3318 E 7	3810 F 3

2300 F 8	3323 D 7	3814 F 4
2301 F 6	3324 D 7	3815 G 4
2302 G 8	3325 D 7	3816 F 2
2305 E 7	3326 E 7	3818 C 3
2306 E 8	3327 D 7	3819 D 3

2307 E 7	3330 H 6	3820 C 3
2308 E 7	3341 D 7	3821 D 3
2309 E 8	3346 D 8	6200 I 6
2310 E 8	3347 D 8	6201 I 8
2311 D 8	3348 E 6	6202 I 7

2312 D 8	3349 D 8	7200 H 8
2313 E 8	3401 D 6	7201 I 7
2314 E 7	3402 C 6	7202 H 7
2315 F 6	3403 A 8	7300 F 7
2316 E 7	3406 B 4	7301 D 7

2317 E 7	3408 A 5	7404 B 7
2318 E 8	3409 A 4	7504 D 4
2320 F 8	3410 B 6	7505 C 1
2321 E 8	3415 C 6	7506 D 2
2322 F 8	3417 B 7	7507 D 4

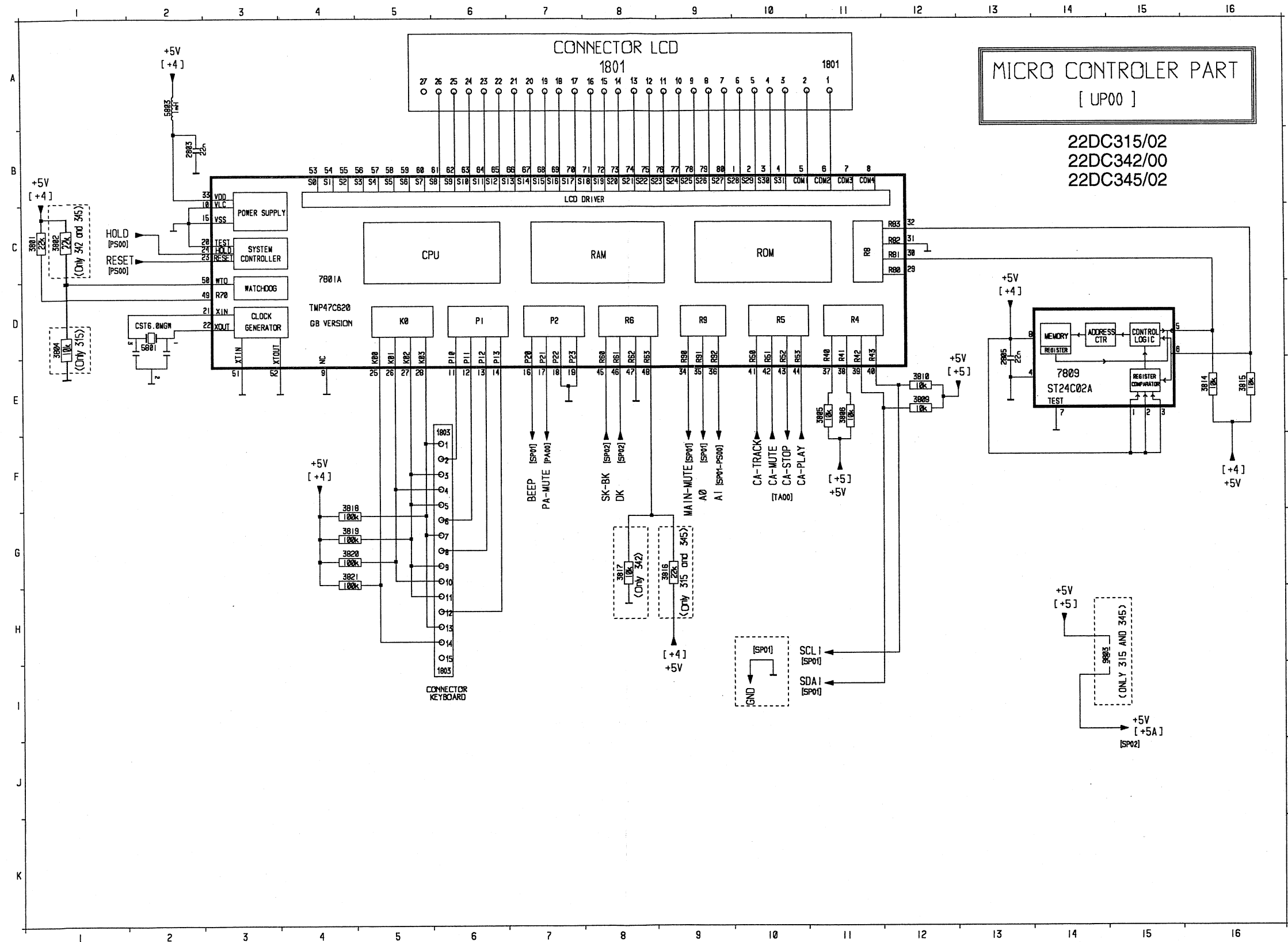
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2325 F 6	3420 C 6	7605 E 5
2330 F 7	3501 F 2	7701 G 3
2333 D 7	3502 F 2	7703 I 4
2340 E 8	3503 B 3	7801 E 3

2349 D 7	3504 C 7	7809 G 4
2404 A 5	3505 B 3	
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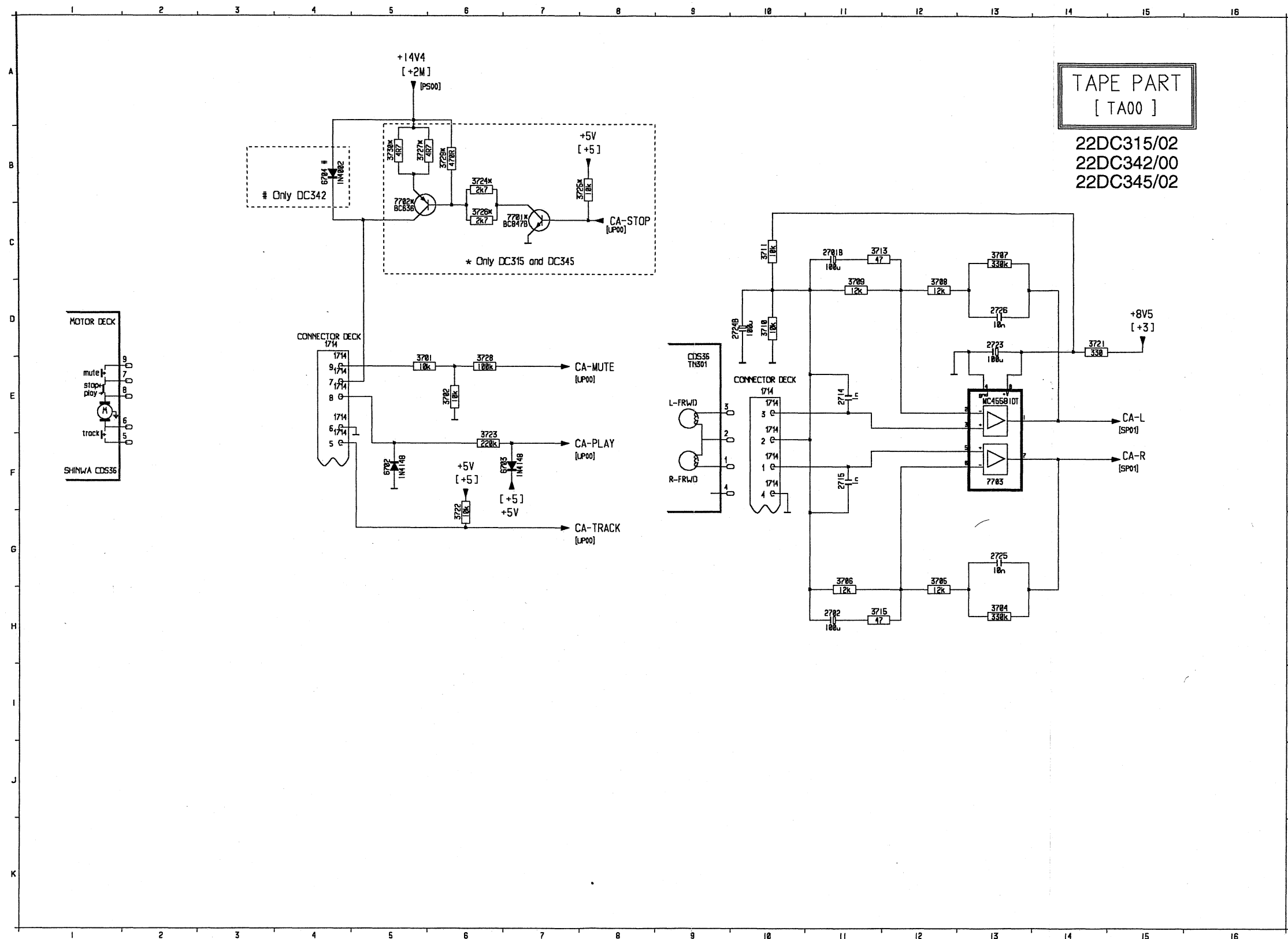
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2515 C 8	3510 D 1	
2612 D 5	3511 D 2	
2613 D 5	3512 A 2	
2614 D 5	3513 E 1	

2615 E 5	3514 E 1	
2616 D 4	3515 F 1	
2625 E 5	3517 B 3	
2628 D 5	3518 A 2	
2635 H 3	3519 C 2	

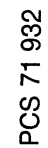
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2715 J 3	3606 F 5	

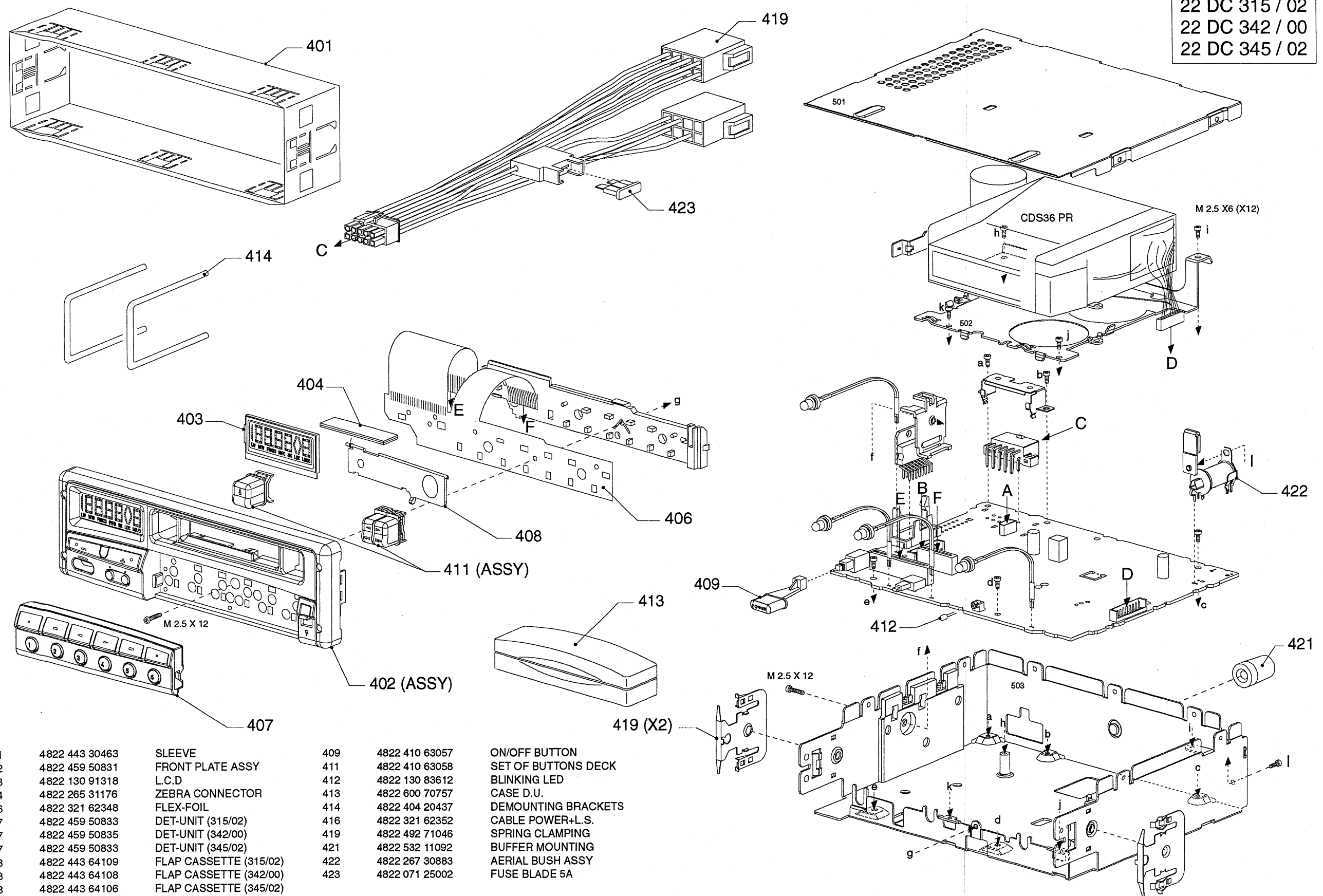


1801	A 8
1803	A 9
2803	B 1
2805	B 2
3801	C 1
3802	C 2
3804	C 3
3805	C 4
3806	C 5
3809	C 6
3810	D 1
3814	D 2
3815	D 3
3816	D 4
3817	D 5
3818	E 1
3819	E 2
3820	E 3
3821	E 4
5801	F 1
5803	F 2
7801	G 1
7809	G 2
9803	H 1



1714	E10
1714	E 4
2701	C11
2702	H11
2714	E11
2715	F11
2723	D13
2724	D10
2725	G13
2726	D13
3701	E 5
3702	E 6
3704	H13
3705	G12
3706	G11
3707	C13
3708	D12
3709	D11
3710	D10
3711	C10
3713	C11
3715	H11
3721	D14
3722	G 6
3723	F 6
3724	B 6
3725	B 7
3726	C 6
3727	B 5
3728	E 6
3729	B 5
3730	B 5
6702	F 7
6703	F 7
6704	B 4
7701	C 7
7702	C 5
7703	F13




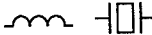
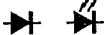
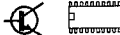
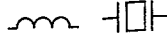




Miscellaneous			⏏		
1300	4822 242 81503	SFP450H	2305	4822 122 33496	100NF10%X7R 63V
1301	4822 242 73779	SFE10,7MS3-K18-A	2306	4822 122 33496	100NF10%X7R 63V
1302	4822 242 73779	SFE10,7MS3-K18-A	2307	4822 122 33496	100NF10%X7R 63V
1303	4822 242 73779	SFE10,7MS3-K18-A	2308	4822 122 33496	100NF10%X7R 63V
1501	4822 265 41379	10P	2309	5322 122 34098	10NF10%X7R 63V
1502	4822 134 41174	50MA 14V T1.25	2310	5322 122 34098	10NF10%X7R 63V ( 315 )
1503	4822 134 41173	50MA 14V T1.25	2310	5322 122 33446	3,3NF10%X7R63V(342-345)
1504	4822 134 41175	80MA 14V T1.25	2311	4822 126 12772	220NF10% X7R 25V
1505	4822 134 41175	80MA 14V T1.25	2312	4822 122 33514	68PF 5%NP0 50V
1512	4822 276 13483	SWITCH	2313	4822 126 12772	220NF10% X7R 25V
1513	4822 276 13484	SWITCH	2314	5322 122 31866	6,8NF10%X7R 63V
1714	4822 265 41385	CONNECTOR 9P	2315	4822 122 33496	100NF10%X7R 63V
1801	4822 267 60378	CONNECTOR 27P	2316	4822 126 12772	220NF10% X7R 25V
1803	4822 267 50915	CONNECTOR 15P	2317	5322 122 31866	6,8NF10%X7R 63V
2318	5322 122 32654	22NF10%X7R 63V	2318	5322 122 32654	22NF10%X7R 63V
2000	5322 122 31946	27PF 10% 50V	2320	4822 122 33496	100NF10%X7R 63V
2001	5322 122 32658	22PF 5% 50V	2321	4822 122 33496	100NF10%X7R 63V
2002	4822 252 60125	DSP-201M-A21F	2322	4822 126 12772	220NF10% X7R 25V
2016	5322 122 33244	8,2PF 5%NPO 50V	2324	4822 126 12772	220NF10% X7R 25V
2104	5322 122 34123	1NF10%X7R 50V	2325	5322 122 32654	22NF10%X7R 63V
2121	4822 124 41017	10UF 16V	2327	4822 124 23256	47UF 16V
2200	4822 122 33496	100NF10%X7R 63V	2328	5322 124 41431	22UF20% 35V
2201	5322 122 34098	10NF10%X7R 63V	2330	4822 122 33496	100NF10%X7R 63V
2202	4822 122 33496	100NF10%X7R 63V	2332	4822 124 80837	33UF20% 16V
2203	5322 122 33063	2,2PF 5%NP0 50V	2333	5322 122 34098	10NF10%X7R 63V
2204	5322 126 10343	1,8PF 5%NP0 63V	2340	5322 122 33244	8,2PF 5%NPO 50V
2205	5322 122 33446	3,3NF10%X7R 63V	2349	5322 122 34098	10NF10%X7R 63V
2206	5322 122 33244	8,2PF 5%NPO 50V	2401	4822 124 40201	1000UF20% 16V
2207	4822 126 11692	1UF	2402	4822 124 40242	1UF20% 63V
2208	5322 122 32531	100PF 5%NP0 50V	2403	4822 124 40242	1UF20% 63V
2209	5322 122 31946	27PF 10% 50V	2404	4822 122 33496	100NF10%X7R 63V
2210	4822 122 33496	100NF10%X7R 63V	2405	4822 122 33496	100NF10%X7R 63V
2211	4822 122 33216	270PF 5%NP0 50V	2406	4822 122 33496	100NF10%X7R 63V
2212	5322 122 33446	3,3NF10%X7R 63V	2407	4822 124 40242	1UF20% 63V
2213	4822 122 33496	100NF10%X7R 63V	2408	4822 124 40242	1UF20% 63V
2214	5322 122 32654	22NF10%X7R 63V	2409	4822 124 23256	47UF 16V
2215	4822 122 33496	100NF10%X7R 63V	2411	4822 124 23256	47UF 16V
2217	4822 124 23279	22UF20% 16V	2413	4822 122 33496	100NF10%X7R 63V
2218	4822 126 11692	1UF	2414	4822 122 33496	100NF10%X7R 63V
2219	4822 124 80837	33UF20% 16V	2502	4822 124 40244	2,2UF20% 63V
2220	4822 124 23281	33UF20% 16V	2503	5322 124 41431	22UF20% 35V
2221	5322 122 32452	47PF 5%NP0 63V	2504	5322 124 41431	22UF20% 35V
2223	5322 122 34098	10NF10%X7R 63V	2505	5322 124 41431	22UF20% 35V
2224	5322 122 34098	10NF10%X7R 63V	2506	4822 124 40248	10UF20% 63V
2225	5322 122 32269	6,8PF 5% 50V	2507	4822 124 22412	2200UF 20% 16V
2227	4822 126 10326	180PF 5%NP0 63V	2508	5322 124 41431	22UF20% 35V
2228	5322 122 32287	4,7PF 5%NP0 50V	2509	4822 124 40248	10UF20% 63V
2229	5322 122 32448	10PF 5% 50V	2510	5322 124 41431	22UF20% 35V
2230	4822 126 11692	1UF	2515	5322 122 32531	100PF 5%NP0 50V
2231	5322 122 32448	10PF 5% 50V	2602	4822 124 80453	100UF20% 10V
2232	5322 122 32448	10PF 5% 50V	2603	4822 124 80453	100UF20% 10V
2249	4822 124 41584	100UF 20% 10V	2605	4822 124 80836	220UF20% 10V
2270	5322 122 34123	1NF10%X7R 50V	2612	4822 122 33342	33NF10%X7R 63V
2271	5322 122 34123	1NF10%X7R 50V	2613	4822 122 32646	5,6NF10%X7R 50V
2272	5322 122 32654	22NF10%X7R 63V	2614	4822 122 32646	5,6NF10%X7R 50V
2273	4822 126 11692	1UF	2615	4822 122 33342	33NF10%X7R 63V
2300	4822 126 11692	1UF	2616	5322 122 34098	10NF10%X7R 63V
2301	5322 122 32654	22NF10%X7R 63V	2625	4822 126 11692	1UF
2302	4822 122 33496	100NF10%X7R 63V	2628	4822 126 11692	1UF
2636	4822 122 32542	47NF10%X7R 63V	2636	4822 122 32542	47NF10%X7R 63V

⏏			⏏		
2637	4822 122 32542	47NF10%X7R 63V	3323	4822 051 20391	390R00 5% 0,1W
2638	4822 122 33496	100NF10%X7R 63V	3324	4822 051 20272	2K70 5% 0,1W
2639	5322 122 32452	47PF 5%NP0 63V	3325	4822 051 20101	100R00 5% 0,1W
2640	4822 124 40246	4,7UF20% 63V	3326	4822 051 20102	1K00 5% 0,1W
2641	5322 122 31866	6,8NF10%X7R 63V	3327	4822 051 20681	680R00 5% 0,1W
2642	5322 122 32654	22NF10%X7R 63V	3330	4822 051 20104	100K00 5% 0,1W
2643	4822 122 32891	68NF10%X7R 63V	3341	4822 051 20109	10R00 5% 0,1W
2644	4822 122 32891	68NF10%X7R 63V	3342	4822 051 20008	0R00 JUMP. (0805)
2645	4822 122 33496	100NF10%X7R 63V	3343	4822 051 20008	0R00 JUMP. (0805)
2646	4822 122 32891	68NF10%X7R 63V	3346	4822 051 20473	47K00 5% 0,1W
2647	4822 122 32891	68NF10%X7R 63V	3347	4822 051 20008	0R00 JUMP. (0805)
2648	4822 124 23282	1UF20% 50V	3348	4822 051 20681	680R00 5% 0,1W
2649	4822 122 32542	47NF10%X7R 63V	3349	4822 051 20223	22K00 5% 0,1W
2701	4822 124 80453	100UF20% 10V	3401	4822 051 20008	0R00 JUMP. (0805)
2702	4822 124 80453	100UF20% 10V	3402	4822 051 20008	0R00 JUMP. (0805)
2714	5322 122 34123	1NF10%X7R 50V	3403	4822 051 20222	2K20 5% 0,1W
2715	5322 122 34123	1NF10%X7R 50V	3406	4822 051 20478	4R70 5% 0,1W
2723	4822 124 80453	100UF20% 10V	3408	4822 051 20478	4R70 5% 0,1W
2724	4822 124 80453	100UF20% 10V	3409	4822 051 20478	4R70 5% 0,1W
2725	5322 122 34098	10NF10%X7R 63V	3410	4822 051 20478	4R70 5% 0,1W
2726	5322 122 34098	10NF10%X7R 63V	3415	4822 051 20223	22K00 5% 0,1W
2803	5322 122 32654	22NF10%X7R 63V	3417	4822 051 20221	220R00 5% 0,1W
2805	5322 122 32654	22NF10%X7R 63V	3418	4822 051 20473	47K00 5% 0,1W
3110	4822 051 20229	22R00 5% 0,1W	3420	4822 051 20102	1K00 5% 0,1W
3112	4822 051 20008	0R00 JUMP. (0805)	3501	4822 051 20104	100K00 5% 0,1W
3113	4822 051 20008	0R00 JUMP. (0805)	3502	4822 051 20103	10K00 5% 0,1W
3200	4822 051 20392	3K90 5% 0,1W	3503	4822 051 20222	2K20 5% 0,1W
3201	4822 051 20222	2K20 5% 0,1W	3504	4822 051 20681	680R00 5% 0,1W
3202	4822 051 20103	10K00 5% 0,1W	3505	4822 051 20222	2K20 5% 0,1W
3203	4822 051 20221	220R00 5% 0,1W	3506	4822 051 20104	100K00 5% 0,1W
3204	4822 051 20471	470R00 5% 0,1W	3507	4822 051 20103	10K00 5% 0,1W
3205	4822 051 20471	470R00 5% 0,1W	3508	4822 051 20103	10K00 5% 0,1W
3206	4822 051 20101	100R00 5% 0,1W	3509	4822 051 20473	47K00 5% 0,1W
3208	4822 051 20103	10K00 5% 0,1W	3510	4822 051 20273	27K00 5% 0,1W
3209	4822 051 20103	10K00 5% 0,1W	3511	4822 051 20123	12K00 5% 0,1W
3210	4822 051 20225	2M20 5% 0,1W	3512	4822 051 20223	22K00 5% 0,1W
3211	4822 051 20479	47R00 5% 0,1W	3513	4822 051 20123	12K00 5% 0,1W
3212	4822 051 20229	22R00 5% 0,1W	3514	4822 051 20222	2K20 5% 0,1W
3213	4822 051 20008	0R00 JUMP. (0805)	3515	4822 051 20222	2K20 5% 0,1W
3290	4822 051 20224	220K00 5% 0,1W	3517	4822 051 20272	2K70 5% 0,1W
3292	4822 051 20229	22R00 5% 0,1W	3518	4822 051 20334	330K00 5% 0,1W
3300	4822 051 20123	12K00 5% 0,1W	3519	4822 051 20473	47K00 5% 0,1W
3301	4822 051 20335	3M30 5% 0,1W	3601	4822 051 20104	100K00 5% 0,1W
3302	4822 051 20333	33K00 5% 0,1W	3606	4822 051 20223	22K00 5% 0,1W
3303	4822 100 20166	10K 30%LIN 0,1W	3608	4822 051 20334	330K00 5% 0,1W
3305	4822 051 20333	33K00 5% 0,1W	3609	4822 051 20334	330K00 5% 0,1W
3306	4822 051 20333	33K00 5% 0,1W	3614	4822 051 20223	22K00 5% 0,1W
3307	4822 051 20432	4K30 5% 0,1W	3630	4822 051 20223	22K00 5% 0,1W
3308	4822 051 20224	220K00 5% 0,1W	3635	4822 051 20101	100R00 5% 0,1W
3309	4822 051 20124	120K00 5% 0,1W	3636	4822 051 20473	47K00 5% 0,1W
3310	4822 051 20684	680K00 5% 0,1W	3637	4822 051 20823	82K00 5% 0,1W
3313	4822 051 20124	120K00 5% 0,1W	3638	4822 051 20684	680K00 5% 0,1W
3314	4822 051 20564	560K00 5% 0,1W	3639	4822 051 20473	47K00 5% 0,1W
3317	4822 051 20273	27K00 5% 0,1W	3640	4822 051 20473	47K00 5% 0,1W
3318	4822 051 20391	390R00 5% 0,1W	3641	4822 051 20104	100K00 5% 0,1W
3319	4822 100 11163	100K 30%LIN 0,1W	3642	4822 051 20222	2K20 5% 0,1W
3321	4822 100 11163	100K 30%LIN 0,1W	3643	4822 051 20823	82K00 5% 0,1W
3322	4822 100 11163	100K 30%LIN 0,1W	3644	4822 051 20473	47K00 5% 0,1W
			3645	4822 051 20684	680K00 5% 0,1W
			3646	4822 051 20331	330R00 5% 0,1W



					
3647	4822 100 11677	470R 30%LIN 0.2W	5301	4822 156 21724	IND VAR 7CGL 450KHz
3648	4822 051 20224	220K00 5% 0,1W	5302	4822 157 71061	IND VAR 7MM 7P 10MHz7
3649	4822 051 20103	10K00 5% 0,1W	5500	4822 152 20677	LAL02 10U 10%
3650	4822 051 20103	10K00 5% 0,1W	5503	4822 157 70839	COIL ASSY
3651	4822 051 20274	270K00 5% 0,1W	5601	4822 157 71056	IND VAR 7MM 7PD 57KHz2
			5801	4822 242 81002	CST6,00MGW-TF01
			5803	4822 157 50975	LAL04 1000UH 10%
3652	4822 051 20333	33K00 5% 0,1W			
3653	4822 051 20473	47K00 5% 0,1W	6200	5322 130 34337	BAV99
3654	4822 051 20334	330K00 5% 0,1W	6201	4822 130 83613	BA779
3701	4822 051 20103	10K00 5% 0,1W	6202	4822 130 83613	BA779
3702	4822 051 20103	10K00 5% 0,1W	6401	4822 130 30621	1N4148
			6501	4822 130 30621	1N4148
3704	4822 051 20334	330K00 5% 0,1W			
3705	4822 051 20123	12K00 5% 0,1W	6502	4822 130 80291	1N4002GP
3706	4822 051 20123	12K00 5% 0,1W	6503	4822 130 30621	1N4148
3707	4822 051 20334	330K00 5% 0,1W	6504	4822 130 34173	BZX79-C5V6
3708	4822 051 20123	12K00 5% 0,1W	6505	4822 130 34173	BZX79-C5V6
			6506	4822 130 30862	BZX79-C9V1
3709	4822 051 20123	12K00 5% 0,1W			
3710	4822 051 20103	10K00 5% 0,1W	6507	4822 130 34173	BZX79-C5V6
3711	4822 051 20103	10K00 5% 0,1W	6509	4822 130 30621	1N4148
3713	4822 051 20479	47R00 5% 0,1W	6512	4822 130 30621	1N4148
3715	4822 051 20479	47R00 5% 0,1W	6601	4822 130 30621	1N4148
			6702	4822 130 30621	1N4148
3721	4822 051 20331	330R00 5% 0,1W			
3722	4822 051 20103	10K00 5% 0,1W	6703	4822 130 30621	1N4148
3723	4822 051 20224	220K00 5% 0,1W	6704	4822 130 80291	1N4002GP
3724	4822 051 20272	2K70 5% 0,1W			
3725	4822 051 20103	10K00 5% 0,1W			
					
3726	4822 051 20272	2K70 5% 0,1W	7200	4822 130 83614	BB135
3727	4822 051 20478	4R70 5% 0,1W	7201	4822 130 63534	PMBFJ309
3728	4822 051 20104	100K00 5% 0,1W	7202	4822 209 33168	TEA6811V/C2/R1
3729	4822 051 20471	470R00 5% 0,1W	7300	4822 209 33167	TEA6821T/V2
3730	4822 051 20478	4R70 5% 0,1W	7301	4822 130 60887	BF840
3801	4822 051 20223	22K00 5% 0,1W	7402	4822 209 31132	TDA7374V
3802	4822 051 20223	22K00 5% 0,1W	7404	4822 130 60511	BC847B
3804	4822 051 20103	10K00 5% 0,1W	7501	4822 130 62837	ON4694
3805	4822 051 20103	10K00 5% 0,1W	7502	4822 130 62837	ON4694
3806	4822 051 20103	10K00 5% 0,1W	7503	4822 130 44257	BC547
3809	4822 051 20103	10K00 5% 0,1W	7504	4822 130 60511	BC847B
3810	4822 051 20103	10K00 5% 0,1W	7505	4822 130 60511	BC847B
3814	4822 051 20103	10K00 5% 0,1W	7506	4822 130 60511	BC847B
3815	4822 051 20103	10K00 5% 0,1W	7507	4822 130 60511	BC847B
3816	4822 051 20223	22K00 5% 0,1W	7602	5322 209 11102	HEF4052BT
3817	4822 051 20103	10K00 5% 0,1W	7605	4822 209 31979	TEA6330T/V1
3818	4822 051 20104	100K00 5% 0,1W	7607	4822 209 31007	TDA1579T/V4
3819	4822 051 20104	100K00 5% 0,1W	7608	4822 130 60511	BC847B
3820	4822 051 20104	100K00 5% 0,1W	7701	4822 130 60511	BC847B
3821	4822 051 20104	100K00 5% 0,1W	7702	4822 130 44283	BC636
			7703	4822 209 33162	MC4558IDT
4300	4822 242 81698	AF9192C-A (61,5MHZ)	7801	4822 209 33191	TMP47C620F/N744
5001	4822 156 21723	LAL 02 A 0U22 5%	7809	5322 209 31723	ST24C02AM6
5200	4822 157 63315	LAL02 220UH			
5201	4822 157 71059	IND VAR MC 122 100MHz			
5202	4822 152 20679	LAL02 68UH 10%			
5203	4822 157 50975	LAL04 100UH 10%			
5206	4822 157 71057	IND VAR 47000UH 6%			
5207	4822 157 71058	FIL LC VAR 98M KZV-353			
5208	4822 156 21722	IND VAR 7CGL 10.7MHZ			
5209	4822 157 71055	IND VAR 5MM 5KM 72MHZ2			
5210	4822 157 71055	IND VAR 5MM 5KM 72MHZ2			
5211	4822 156 21721	LAL02 2U2 10%			
5212	4822 156 21719	LAL02 1U5 10%			

**TECHNICIAN'S REMARKS**

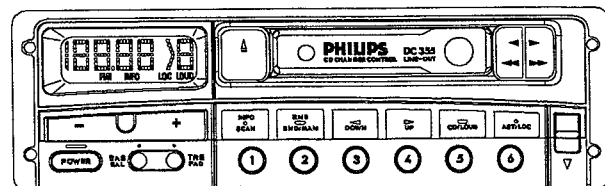
07 JUL 1994

4802  
Cassette car radio 22DC315/02

22DC342/00

22DC345/02

Service  
Service  
Service



Supplement

# Service Manual

12 V

Supplement to the Service Manual 4822 725 24343

From FD02, PWB index 3 has been applied.

For DC315 and DC345, FD02 marks the end of validity of the Service Newsletter 1994-R 01.

You will find in this supplement the schematic diagrams with changed values, the new layout, the updated electrical partslist and some corrections to the service manual.

## Contents

	page
Corrections to the Service Manual	2
Sound Process part 2 schematic diagram	3 - 3a
Microcontroller part schematic diagram	4 - 4a
PWB Layout	5 - 5a
Electrical partslist	6 - 6a - 7



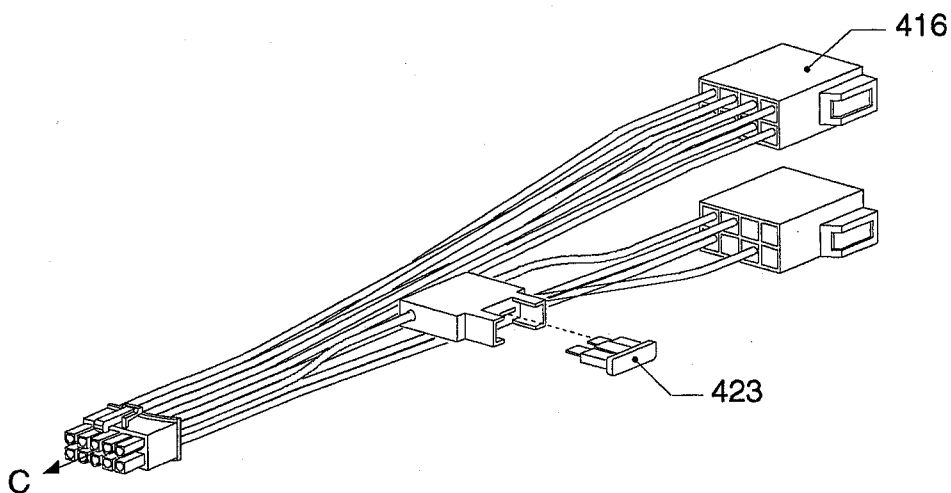
**PHILIPS**

Corrections to the service manual:

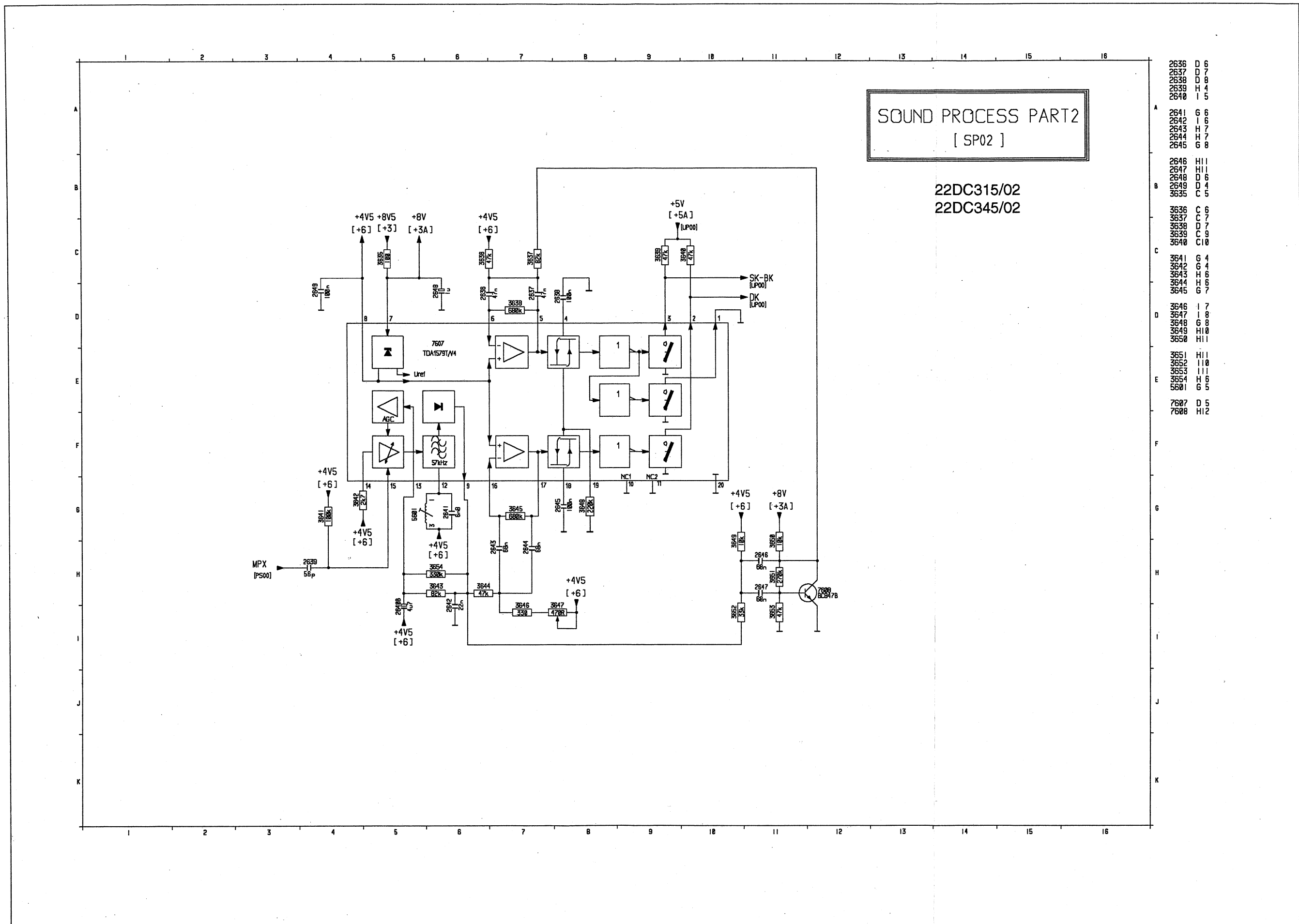
- Page 19-19a: Exploded view

On the drawing : Cable POWER + HP: 419 should read 416

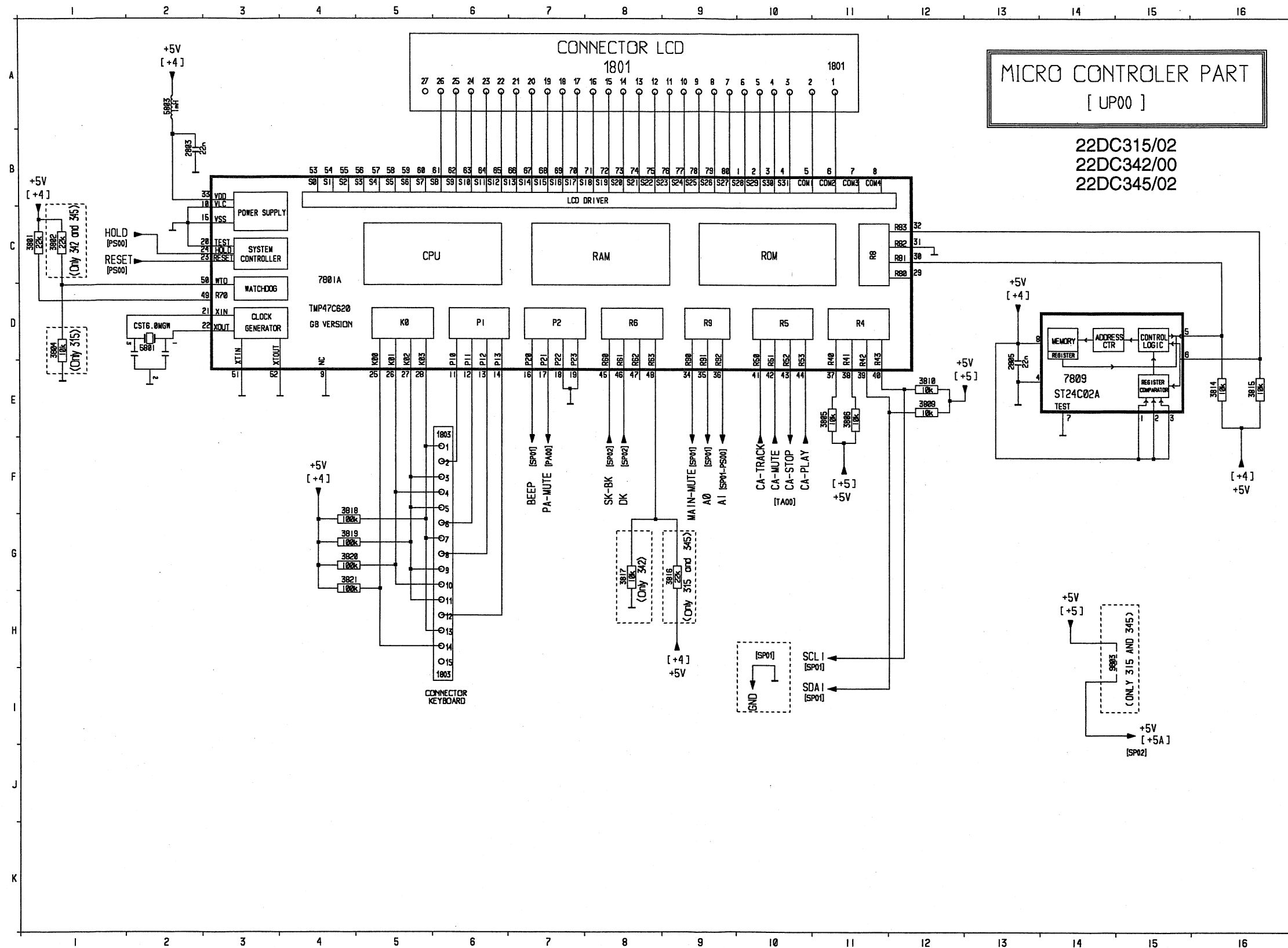
In the mechanical partslist : 416 4822 321 62354 CABLE POWER + L.S.



22DC315/02  
22DC342/00  
22DC345/02



2636	D 6
2637	D 7
2638	D 8
2639	H 4
2640	I 5
2641	G 6
2642	I 6
2643	H 7
2644	H 8
2645	G 8
2646	H 11
2647	H 11
2648	D 6
2649	D 4
2650	C 5
3636	C 6
3637	C 7
3638	D 7
3639	C 9
3640	C 10
3641	G 4
3642	G 4
3643	H 6
3644	H 6
3645	G 7
3646	I 7
3647	I 8
3648	G 8
3649	H 10
3650	H 11
3651	H 11
3652	I 10
3653	I 11
3654	H 6
3655	G 5
7607	D 5
7608	H 12



1801	A 8
1803	F 6
2803	B 2
2805	E13
3801	C 1
3802	C 1
3804	D 1
3805	E11
3806	E11
3809	E12
3810	E12
3814	E16
3815	E16
3816	G 9
3817	G 8
3818	G 5
3819	G 5
3820	G 5
3821	G 5
5801	D 2
5803	A 2
7801	D 4
7809	E14
9803	H15

1001 J 8	1506 G 1	2220 H 6	2409 B 5	2510 D 1	2646 I 2	3322 H 7	5208 G 7	5801 E 4	6509 B 4	9200 J 7	9503 B 3
1300 E 6	1512 B 2	2249 H 8	2411 A 4	2602 D 6	2647 I 2	3647 J 2	5209 G 7	5803 F 4	6512 B 2	9201 G 7	9504 G 5
1301 E 7	1513 D 2	2327 E 8	2502 D 4	2603 D 6	2648 H 3	4300 F 8	5210 G 8	6401 B 7	6601 D 5	9202 F 7	9505 G 1
1302 D 7	1714 J 4	2328 G 8	2503 C 6	2605 C 5	2701 J 3	5001 I 7	5211 J 6	6501 G 4	6702 J 5	9203 E 6	9506 C 4
1303 G 6	1801 B 2	2332 E 6	2504 A 3	2636 H 2	2702 I 3	5200 I 6	5212 J 7	6502 D 8	6703 H 4	9204 F 7	9507 E 5
1501 B 8	1803 C 3	2401 A 8	2505 A 3	2637 I 2	2723 J 3	5201 H 8	5301 F 6	6503 B 4	7402 A 5	9205 I 6	9509 A 2
1502 C 1	2002 J 8	2402 B 5	2506 A 2	2640 I 3	2724 J 3	5202 I 6	5302 F 8	6504 F 2	7501 A 3	9207 I 6	9510 C 7
1503 B 4	2121 I 6	2403 B 4	2507 B 7	2641 J 2	3303 G 7	5203 H 6	5500 C 8	6505 B 3	7502 C 6	9403 B 6	9803 H 3
1504 E 1	2217 I 6	2407 B 5	2508 C 5	2643 I 2	3319 G 6	5206 J 5	5503 C 7	6506 C 7	7503 A 3	9404 B 6	
1505 H 2	2219 I 7	2408 B 5	2509 A 3	2644 I 2	3321 D 8	5207 I 8	5601 J 2	6507 A 2	7702 H 2	9501 C 8	

22DC315/02  
22DC342/00  
22DC345/02

2000 I 8	2645 I 2	3518 A 2	7607 I 3
2001 J 7	2649 I 2	3519 C 2	7608 H 4
2016 J 7	2714 J 4	3601 F 5	7701 G 3
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2200 G 8	2725 I 4	3608 E 4	7801 E 3

2201 G 8	2726 J 4	3609 D 5	7809 G 4
2202 G 8	2803 F 3	3614 D 5	
2203 H 8	2805 G 4	3630 F 5	
2204 H 8	3110 I 6	3635 H 4	
2205 H 8	3112 I 7	3636 I 3	

2206 I 6	3113 I 8	3637 I 3	
2207 H 7	3200 G 8	3638 H 2	
2208 I 7	3201 H 8	3639 H 2	
2209 I 6	3202 H 8	3640 G 2	
2210 I 7	3203 I 7	3641 I 2	

2211 H 6	3204 I 6	3642 I 2	
2212 I 6	3205 J 6	3643 J 3	
2213 H 6	3206 J 6	3644 J 2	
2214 G 7	3208 G 8	3645 I 2	
2215 H 8	3209 G 8	3646 J 2	

2218 I 7	3210 J 7	3648 I 2	
2221 H 8	3211 I 6	3649 H 3	
2223 J 6	3212 G 6	3650 H 4	
2224 G 8	3213 H 6	3651 H 4	
2225 H 8	3290 H 7	3652 H 3	

2227 H 6	3292 H 8	3653 H 4	
2228 F 8	3300 G 7	3654 J 3	
2229 G 7	3301 F 7	3701 I 5	
2230 I 6	3302 G 7	3702 I 5	
2231 I 7	3305 G 6	3704 I 4	

2232 F 7	3306 G 6	3705 I 4	
2270 I 8	3307 F 8	3706 I 3	
2271 H 7	3308 E 8	3707 J 4	
2272 H 8	3309 E 8	3708 J 4	
2273 H 7	3310 F 6	3709 J 4	

2300 F 8	3313 F 8	3710 J 3	
2301 F 6	3314 F 7	3711 J 3	
2302 G 8	3317 F 6	3713 J 4	
2305 E 7	3318 E 7	3715 I 4	
2306 E 8	3323 D 7	3721 I 4	

2307 E 7	3324 D 7	3722 G 4	
2308 E 7	3325 D 7	3723 J 5	
2309 E 8	3326 E 7	3724 H 3	
2310 E 8	3327 D 7	3725 G 4	
2311 D 8	3330 H 6	3726 G 3	

2312 D 8	3341 D 7	3727 H 1	
2313 E 8	3346 D 8	3728 I 5	
2314 E 7	3347 D 8	3729 H 2	
2315 F 6	3348 E 6	3730 H 2	
2316 E 7	3349 D 8	3801 F 2	

2317 E 7	3401 D 6	3802 F 2	
2318 E 8	3402 C 6	3805 G 4	
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2322 F 8	3408 A 5	3810 F 3	

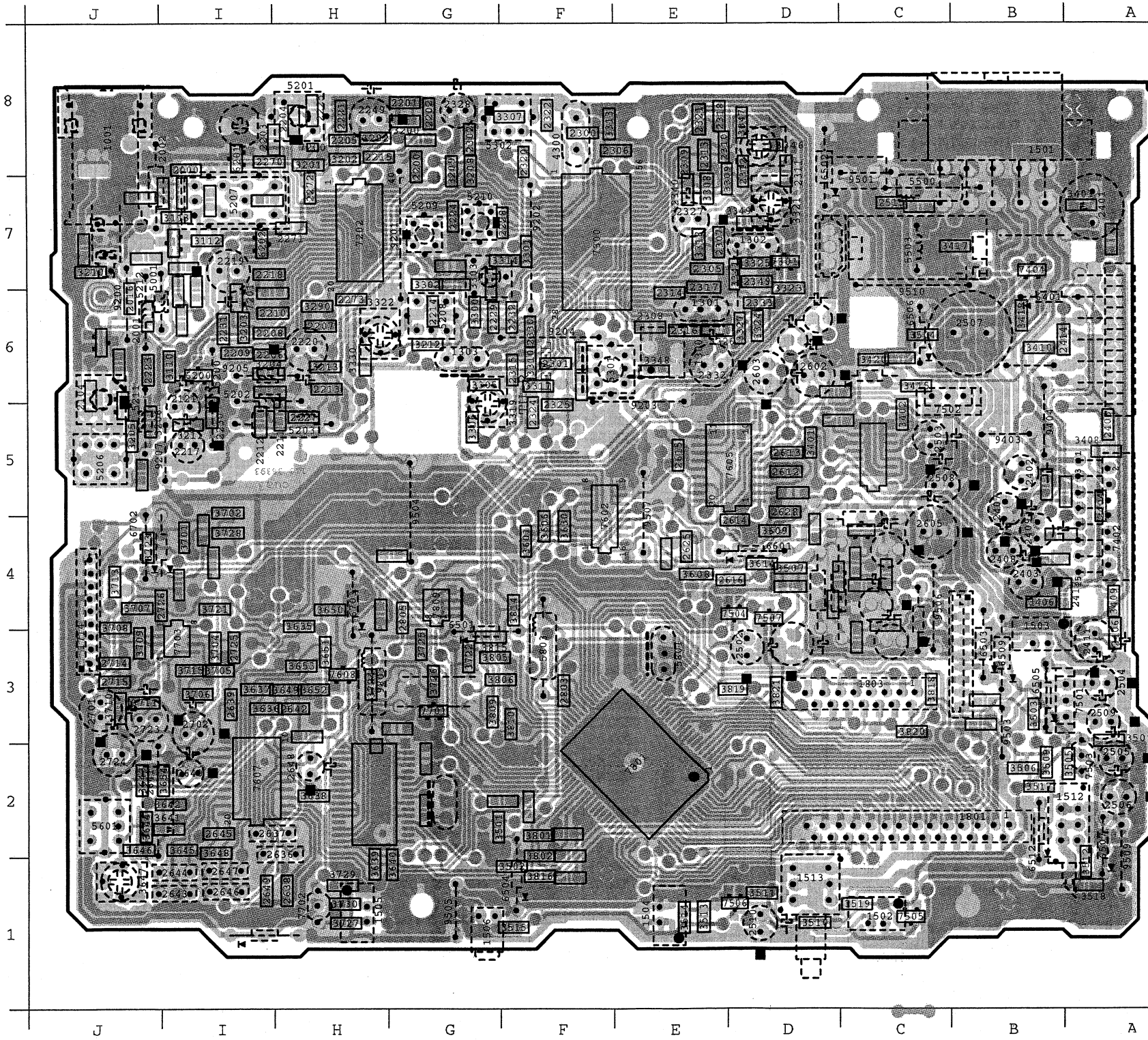
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2405 A 6	3502 F 2	6200 I 6	
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2413 B 4	3504 C 7	6202 I 7	

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

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2628 D 5	3513 E 1	7506 D 2	
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
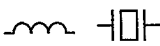
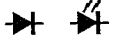
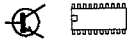
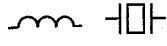




Miscellaneous			—  —		
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1301	4822 242 73779	SFE10,7MS3-K18-A	2306	4822 122 33496	100NF 10% X7R 63V
1302	4822 242 73779	SFE10,7MS3-K18-A	2307	4822 122 33496	100NF 10% X7R 63V
1303	4822 242 73779	SFE10,7MS3-K18-A	2308	4822 122 33496	100NF 10% X7R 63V
1501	4822 265 41379	10P	2309	5322 122 34098	10NF 10% X7R 63V
1502	4822 134 41178	50MA 14V T1.25	2310	5322 122 34098	10NF 10% X7R 63V ( 315 )
1503	4822 134 41178	50MA 14V T1.25	2310	5322 122 33446	3,3NF 10% X7R63V(342-
1504	4822 134 41179	80MA 14V T1.25	345)		
1505	4822 134 41179	80MA 14V T1.25	2311	4822 126 12772	220NF10% X7R 25V
1512	4822 276 13483	SWITCH	2312	4822 122 33514	68PF 5% NP0 50V
1513	4822 276 13484	SWITCH	2313	4822 126 12772	220NF10% X7R 25V
1714	4822 265 41385	CONNECTOR 9P	2314	5322 122 31866	6,8NF 10% X7R 63V
1801	4822 267 60378	CONNECTOR 27P	2315	4822 122 33496	100NF 10% X7R 63V
1803	4822 267 50915	CONNECTOR 15P	2316	4822 126 12772	220NF10% X7R 25V
			2317	5322 122 31866	6,8NF 10% X7R 63V
			2318	5322 122 32654	22NF 10% X7R 63V
—  —			2320	4822 122 33496	100NF 10% X7R 63V
2000	5322 122 31946	27PF 10% 50V	2321	4822 122 33496	100NF 10% X7R 63V
2001	5322 122 32658	22PF 5% 50V	2322	4822 126 12772	220NF10% X7R 25V
2002	4822 252 60125	DSP-201M-A21F	2324	4822 126 12772	220NF10% X7R 25V
2016	5322 122 33244	8,2PF 5%NPO 50V	2325	5322 122 32654	22NF 10% X7R 63V
2104	5322 122 34123	1NF 10% X7R 50V	2327	4822 124 23256	47UF 16V
2121	4822 124 41017	10UF 16V	2328	5322 124 41431	22UF 20% 35V
2200	4822 122 33496	100NF10% X7R 63V	2330	4822 122 33496	100NF 10% X7R 63V
2201	5322 122 34098	10NF 10% X7R 63V	2332	4822 124 80837	33UF 20% 16V
2202	4822 122 33496	100NF 10% X7R 63V	2333	5322 122 34098	10NF 10% X7R 63V
2203	5322 122 33063	2,2PF 5% NP0 50V	2340	5322 122 32448	10PF 5%NPO 50V
2204	5322 126 10343	1,8PF 5% NP0 63V	2349	5322 122 34098	10NF 10% X7R 63V
2205	5322 122 33446	3,3NF 10% X7R 63V	2401	4822 124 40201	1000UF 20% 16V
2206	5322 122 33244	8,2PF 5%NPO 50V	2402	4822 124 40242	1UF 20% 63V
2207	4822 126 11692	1UF	2403	4822 124 40242	1UF 20% 63V
2208	5322 122 32531	100PF 5% NP0 50V	2404	4822 122 33496	100NF 10% X7R 63V
2209	5322 122 31946	27PF 10% 50V	2405	4822 122 33496	100NF 10% X7R 63V
2210	4822 122 33496	100NF 10% X7R 63V	2406	4822 122 33496	100NF 10% X7R 63V
2211	4822 122 33216	270PF 5% NP0 50V	2407	4822 124 40242	1UF 20% 63V
2212	5322 122 33446	3,3NF 10% X7R 63V	2408	4822 124 40242	1UF 20% 63V
2213	4822 122 33496	100NF 10% X7R 63V	2409	4822 124 23256	47UF 16V
2214	5322 122 32654	22NF 10% X7R 63V	2411	4822 124 23256	47UF 16V
2215	4822 122 33496	100NF 10% X7R 63V	2413	4822 122 33496	100NF 10% X7R 63V
2217	4822 124 23279	22UF 20% 16V	2414	4822 122 33496	100NF 10% X7R 63V
2218	4822 126 11692	1UF	2502	4822 124 40244	2,2UF 20% 63V
2219	4822 124 80837	33UF 20% 16V	2503	5322 124 41431	22UF 20% 35V
2220	4822 124 23281	33UF 20% 16V	2504	5322 124 41431	22UF 20% 35V
2221	5322 122 32452	47PF 5% NP0 63V	2505	5322 124 41431	22UF 20% 35V
2223	5322 122 34098	10NF 10% X7R 63V	2506	4822 124 40248	10UF 20% 63V
2224	5322 122 34098	10NF 10% X7R 63V	2507	4822 124 22412	2200UF 20% 16V
2225	5322 122 32269	6,8PF 5% 50V	2508	5322 124 41431	22UF 20% 35V
2227	4822 126 10326	180PF 5% NP0 63V	2509	4822 124 40248	10UF 20% 63V
2228	5322 122 32287	4,7PF 5% NP0 50V	2510	5322 124 41431	22UF 20% 35V
2229	5322 122 32448	10PF 5% 50V	2515	5322 122 32531	100PF 5% NP0 50V
2230	4822 126 11692	1UF	2602	4822 124 80453	100UF 20% 10V
2231	5322 122 32448	10PF 5% 50V	2603	4822 124 80453	100UF 20% 10V
2232	5322 122 32448	10PF 5% 50V	2605	4822 124 80836	220UF 20% 10V
2249	4822 124 41584	100UF 20% 10V	2612	4822 122 33342	33NF 10% X7R 63V
2270	5322 122 34123	1NF 10% X7R 50V	2613	4822 122 32646	5,6NF 10% X7R 50V
2271	5322 122 34123	1NF 10% X7R 50V	2614	4822 122 32646	5,6NF 10% X7R 50V
2272	5322 122 32654	22NF 10% X7R 63V	2615	4822 122 33342	33NF 10% X7R 63V
2273	4822 126 11692	1UF	2616	5322 122 34098	10NF 10% X7R 63V
2300	4822 126 11692	1UF	2625	4822 126 11692	1UF
2301	5322 122 32654	22NF 10% X7R 63V	2628	4822 126 11692	1UF
2302	4822 122 33496	100NF 10% X7R 63V			

					
2636	4822 121 43526	47NF 5%	3322	4822 100 11163	100K 30%LIN 0,1W
2637	4822 121 43526	47NF 5%	3323	4822 051 20391	390R00 5% 0,1W
2638	4822 122 33496	100NF 10% X7R 63V	3324	4822 051 20272	2K70 5% 0,1W
2639	5322 126 12506	56PF 5%	3325	4822 051 20101	100R00 5% 0,1W
2640	4822 124 80765	4,7UF 20% 63V	3326	4822 051 20102	1K00 5% 0,1W
2641	4822 121 43101	6,8NF 5%	3327	4822 051 20681	680R00 5% 0,1W
2642	5322 122 32654	22NF 10% X7R 63V	3330	4822 051 20473	47K00 5% 0,1W
2643	5322 121 42465	68NF 5%	3341	4822 051 20109	10R00 5% 0,1W
2644	5322 121 42465	68NF 5%	3342	4822 051 20008	0R00 JUMP. (0805)
2645	4822 122 33496	100NF10%X7R 63V	3343	4822 051 20008	0R00 JUMP. (0805)
2646	5322 121 42465	68NF 5%	3346	4822 051 20473	47K00 5% 0,1W
2647	5322 121 42465	68NF 5%	3347	4822 051 20008	0R00 JUMP. (0805)
2648	4822 124 23282	1UF 20% 50V	3348	4822 051 20681	680R00 5% 0,1W
2649	4822 122 33496	100NF 10% X7R 63V	3349	4822 051 20223	22K00 5% 0,1W
2701	4822 124 80453	100UF 20% 10V	3401	4822 051 20008	0R00 JUMP. (0805)
2702	4822 124 80453	100UF 20% 10V	3402	4822 051 20008	0R00 JUMP. (0805)
2714	5322 122 34123	1NF 10% X7R 50V	3403	4822 051 20222	2K20 5% 0,1W
2715	5322 122 34123	1NF 10% X7R 50V	3406	4822 051 20478	4R70 5% 0,1W
2723	4822 124 80453	100UF 20% 10V	3408	4822 051 20478	4R70 5% 0,1W
2724	4822 124 80453	100UF 20% 10V	3409	4822 051 20478	4R70 5% 0,1W
2725	5322 122 34098	10NF 10% X7R 63V	3410	4822 051 20478	4R70 5% 0,1W
2726	5322 122 34098	10NF 10% X7R 63V	3415	4822 051 20223	22K00 5% 0,1W
2803	5322 122 32654	22NF 10% X7R 63V	3417	4822 051 20221	220R00 5% 0,1W
2805	5322 122 32654	22NF 10% X7R 63V	3418	4822 051 20473	47K00 5% 0,1W
			3420	4822 051 20102	1K00 5% 0,1W
			3501	4822 051 20104	100K00 5% 0,1W
					
3110	4822 051 20229	22R00 5% 0,1W	3502	4822 051 20103	10K00 5% 0,1W
3112	4822 051 20008	0R00 JUMP. (0805)	3503	4822 051 20222	2K20 5% 0,1W
3113	4822 051 20008	0R00 JUMP. (0805)	3504	4822 051 20681	680R00 5% 0,1W
3200	4822 051 20392	3K90 5% 0,1W	3505	4822 051 20222	2K20 5% 0,1W
3201	4822 051 20222	2K20 5% 0,1W	3506	4822 051 20104	100K00 5% 0,1W
3202	4822 051 20103	10K00 5% 0,1W	3507	4822 051 20103	10K00 5% 0,1W
3203	4822 051 20221	220R00 5% 0,1W	3508	4822 051 20103	10K00 5% 0,1W
3204	4822 051 20471	470R00 5% 0,1W	3509	4822 051 20473	47K00 5% 0,1W
3205	4822 051 20471	470R00 5% 0,1W	3510	4822 051 20273	27K00 5% 0,1W
3206	4822 051 20101	100R00 5% 0,1W	3511	4822 051 20123	12K00 5% 0,1W
3208	4822 051 20103	10K00 5% 0,1W	3512	4822 051 20223	22K00 5% 0,1W
3209	4822 051 20103	10K00 5% 0,1W	3513	4822 051 20123	12K00 5% 0,1W
3210	4822 051 20225	2M20 5% 0,1W	3514	4822 051 20222	2K20 5% 0,1W
3211	4822 051 20479	47R00 5% 0,1W	3515	4822 051 20222	2K20 5% 0,1W
3212	4822 051 20229	22R00 5% 0,1W	3517	4822 051 20272	2K70 5% 0,1W
3213	4822 051 20008	0R00 JUMP. (0805)	3518	4822 051 20334	330K00 5% 0,1W
3290	4822 051 20224	220K00 5% 0,1W	3519	4822 051 20473	47K00 5% 0,1W
3292	4822 051 20229	22R00 5% 0,1W	3601	4822 051 20104	100K00 5% 0,1W
3300	4822 051 20123	12K00 5% 0,1W	3606	4822 051 20223	22K00 5% 0,1W
3301	4822 051 20335	3M30 5% 0,1W	3608	4822 051 20334	330K00 5% 0,1W
3302	4822 051 20333	33K00 5% 0,1W	3609	4822 051 20334	330K00 5% 0,1W
3303	4822 100 20166	10K 30%LIN 0,1W	3614	4822 051 20223	22K00 5% 0,1W
3305	4822 051 20333	33K00 5% 0,1W	3630	4822 051 20223	22K00 5% 0,1W
3306	4822 051 20333	33K00 5% 0,1W	3635	4822 051 20101	100R00 5% 0,1W
3307	4822 051 20432	4K30 5% 0,1W	3636	4822 051 20473	47K00 5% 0,1W
3308	4822 051 20224	220K00 5% 0,1W	3637	4822 051 20823	82K00 5% 0,1W
3309	4822 051 20124	120K00 5% 0,1W	3638	4822 051 20684	680K00 5% 0,1W
3310	4822 051 20684	680K00 5% 0,1W	3639	4822 051 20473	47K00 5% 0,1W
3313	4822 051 20124	120K00 5% 0,1W	3640	4822 051 20473	47K00 5% 0,1W
3314	4822 051 20564	560K00 5% 0,1W	3641	4822 051 20104	100K00 5% 0,1W
3317	4822 051 20273	27K00 5% 0,1W	3642	4822 051 20272	2K70 5% 0,1W
3318	4822 051 20391	390R00 5% 0,1W	3643	4822 051 20823	82K00 5% 0,1W
3319	4822 100 11163	100K 30%LIN 0,1W	3644	4822 051 20473	47K00 5% 0,1W
3321	4822 100 11163	100K 30%LIN 0,1W	3645	4822 051 20684	680K00 5% 0,1W



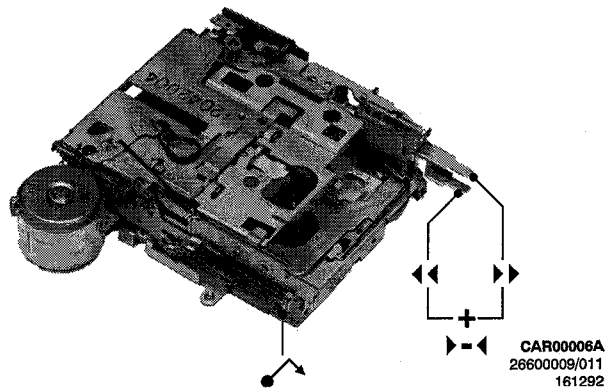
					
3646	4822 051 20331	330R00 5% 0,1W	5212	4822 156 21719	LAL02 1U5 10%
3647	4822 100 11677	470R 30%LIN 0.2W	5301	4822 156 21724	IND VAR 7CGL 450KHz
3648	4822 051 20224	220K00 5% 0,1W	5302	4822 157 71061	IND VAR 7MM 7P 10MHz7
3649	4822 051 20103	10K00 5% 0,1W	5500	4822 152 20677	LAL02 10U 10%
3650	4822 051 20103	10K00 5% 0,1W	5503	4822 157 70839	COIL ASSY
3651	4822 051 20274	270K00 5% 0,1W	5601	4822 156 40738	COIL
			5801	4822 242 81002	CST6,00MGW-TF01
			5803	4822 157 50975	LAL04 1000UH 10%
3652	4822 051 20333	33K00 5% 0,1W			
3653	4822 051 20473	47K00 5% 0,1W	6200	5322 130 34337	BAV99
3654	4822 051 20334	330K00 5% 0,1W	6201	4822 130 83613	BA779
3701	4822 051 20103	10K00 5% 0,1W	6202	4822 130 83613	BA779
3702	4822 051 20103	10K00 5% 0,1W	6401	4822 130 30621	1N4148
			6501	4822 130 30621	1N4148
3704	4822 051 20334	330K00 5% 0,1W			
3705	4822 051 20123	12K00 5% 0,1W	6502	4822 130 80291	1N4002GP
3706	4822 051 20123	12K00 5% 0,1W	6503	4822 130 30621	1N4148
3707	4822 051 20334	330K00 5% 0,1W	6504	4822 130 34173	BZX79-C5V6
3708	4822 051 20123	12K00 5% 0,1W	6505	4822 130 34173	BZX79-C5V6
			6506	4822 130 30862	BZX79-C9V1
3709	4822 051 20123	12K00 5% 0,1W			
3710	4822 051 20103	10K00 5% 0,1W	6507	4822 130 34173	BZX79-C5V6
3711	4822 051 20103	10K00 5% 0,1W	6509	4822 130 30621	1N4148
3713	4822 051 20479	47R00 5% 0,1W	6512	4822 130 30621	1N4148
3715	4822 051 20479	47R00 5% 0,1W	6601	4822 130 30621	1N4148
			6702	4822 130 30621	1N4148
3721	4822 051 20331	330R00 5% 0,1W			
3722	4822 051 20103	10K00 5% 0,1W	6703	4822 130 30621	1N4148
3723	4822 051 20224	220K00 5% 0,1W	6704	4822 130 80291	1N4002GP
3724	4822 051 20272	2K70 5% 0,1W			
3725	4822 051 20103	10K00 5% 0,1W			
					
3726	4822 051 20272	2K70 5% 0,1W	7200	4822 130 83614	BB135
3727	4822 051 20478	4R70 5% 0,1W	7201	4822 130 63534	PMBFJ309
3728	4822 051 20104	100K00 5% 0,1W	7202	4822 209 33168	TEA6811V/C2/R1
3729	4822 051 20471	470R00 5% 0,1W	7300	4822 209 33167	TEA6821T/V2
3730	4822 051 20478	4R70 5% 0,1W	7301	4822 130 60887	BF840
3801	4822 051 20223	22K00 5% 0,1W	7402	4822 209 31132	TDA7374V
3802	4822 051 20223	22K00 5% 0,1W	7404	4822 130 60511	BC847B
3804	4822 051 20103	10K00 5% 0,1W	7501	4822 130 62732	BD241A
3805	4822 051 20103	10K00 5% 0,1W	7502	4822 130 62732	BD241A
3806	4822 051 20103	10K00 5% 0,1W	7503	4822 130 44257	BC547
3809	4822 051 20103	10K00 5% 0,1W	7504	4822 130 60511	BC847B
3810	4822 051 20103	10K00 5% 0,1W	7505	4822 130 60511	BC847B
3814	4822 051 20103	10K00 5% 0,1W	7506	4822 130 60511	BC847B
3815	4822 051 20103	10K00 5% 0,1W	7507	4822 130 60511	BC847B
3816	4822 051 20223	22K00 5% 0,1W	7602	5322 209 11102	HEF4052BT
3817	4822 051 20103	10K00 5% 0,1W	7605	4822 209 31979	TEA6330T/V1
3818	4822 051 20104	100K00 5% 0,1W	7607	4822 209 31007	TDA1579T/V4
3819	4822 051 20104	100K00 5% 0,1W	7608	4822 130 60511	BC847B
3820	4822 051 20104	100K00 5% 0,1W	7701	4822 130 60511	BC847B
3821	4822 051 20104	100K00 5% 0,1W	7702	4822 130 44283	BC636
			7703	4822 209 33162	MC4558IDT
			7801	4822 209 33191	TMP47C620F/N744
			7809	5322 209 31723	ST24C02AM6
					
4300	4822 242 81698	AF9192C-A (61,5MHZ)			
5001	4822 156 21723	LAL 02 A 0U22 5%			
5200	4822 157 63315	LAL02 220UH			
5201	4822 157 71059	IND VAR MC 122 100MHZ			
5202	4822 152 20679	LAL02 68UH 10%			
5203	4822 157 50975	LAL04 100UH 10%			
5206	4822 157 71057	IND VAR 47000UH 6%			
5207	4822 157 71058	FIL LC VAR 98M KZV-353			
5208	4822 156 21722	IND VAR 7CGL 10.7MHZ			
5209	4822 157 71055	IND VAR 5MM 5KM 72MHZ2			
5210	4822 157 71055	IND VAR 5MM 5KM 72MHZ2			
5211	4822 156 21721	LAL02 2U2 10%			

# Car cassette deck CDS-36MH3

Service  
Service  
Service

**ERSATZTEILE**  
für Philips Car Systems  
erhalten Sie bei:

**KiVi**  
KiVi Service GmbH  
Windmühlenstr. 41 · 31178 Giesen/Emmerke  
Tel.: 0 51 21 / 6 00 20 · Fax 0 51 21 / 6 0 02 54



# Service Manual

12 V

**(GB) TECHNICAL DATA**

Operating voltage	: 10.5-16VDC (nom. 13.2VDC)
Tape speed	: 4.76cm/sec ± 2%
Wow & flutter	: ≤ 0.35% RMS
Crosstalk suppression	: > 35dB
Fast wind time	: < 170 secs (C-60)
Number of tracks	: 2x2

**(F) CARACTERISTIQUES TECHNIQUES**

Tension de fonctionnement	: 10.5-16VDC (nom. 13.2VDC)
Vitesse de bande	: 4,76cm/sec ± 2%
Pleurage & scintillement	: ≤ 0,35% RMS
Assourdissement de diaphonie	: > 35dB
Temps de bobinagerapide	: < 170 sec (C-60)
Nombre de pistes	: 2x2

**(NL) TECHNISCHE GEGEVENS**

Werkspanning	: 10.5-16VDC (nom. 13.2VDC)
Bandsnelheid	: 4,76cm/sec ± 2%
Wow & flutter	: ≤ 0,35% RMS
Overspraak damping	: > 35dB
Omspoeltijd	: < 170 sec (C-60)
Aantal sporen	: 2x2

**(D) TECHNISCHE DATEN**

Betriebsspannung	: 10.5-16VDC (nom. 13.2VDC)
Bandgeschwindigkeit	: 4,76cm/s ± 2%
Gleichlaufschwankungen	: ≤ 0,35% RMS
Uebersprach-Dämpfung	: > 35dB
Umspuldauer	: < 170 s (C-60)
Spurenzahl	: 2x2

**(I) DATI TECNICI**

Tensione di lavoro	: 10.5-16VDC (nom. 13.2VDC)
Velocità di trascinamento	: 4,76cm/sec ± 2%
Wow & flutter	: ≤ 0,35% RMS
Assordamento della diafonia	: > 35dB
Durata di avvolgimento	: < 170 sec (C-60)
Numero di piste	: 2x2



**PHILIPS**

## **(GB) MAINTENANCE**

The cassette mechanism requires periodic cleaning, as well as periodic lubrication of the principal points.

### **1. Cleaning with alcohol or spirit**

- Playback head
- Capstan & pressure roller
- Belts & pulleys

To clean head, pressure roller and capstan, it is also possible to use drop-in cassette SBC114-4822 389 20035.

### **2. Lubrication**

- See exploded view.

## **(NL) ONDERHOUD**

Het cassette mechanisme moet periodiek schoongemaakt en op de belangrijkste punten gesmeerd worden.

### **1. Schoonmaken met alcohol of spiritus**

- Weergeefkop
- Toonas & drukrol
- Snaren & poelies

Voor het reinigen van kop, drukrol en toonas kan ook "drop-in"-cassette SBC114-4822 389 20035 worden gebruikt.

### **2. Smering**

- Zie exploded view.

## **(F) MAINTENANCE**

Le mécanisme de cassette doit être nettoyé régulièrement et graissé à ses points cardinaux.

### **1. Nettoyage à l'alcool ou à l'alcool éthylique**

- Tête de reproduction
- Cabestan & galet-presseur
- Courroies & poulies

Pour ce qui est du nettoyage de la tête, du galet-presseur et du cabestan on pourra également utiliser la cassette "drop-in" SBC114-4822 389 20035.

### **2. Lubrification**

- Voir vue éclatée.

## **(D) WARTUNG**

Der Cassettenteil soll in regelmässigen Zeitabständen gereinigt und an den wichtigsten Stellen geschmiert werden.

### **1. Reinigen mit Alkohol oder Spiritus**

- Wiedergabekopf
- Tonwelle & Andruckrolle
- Pesen & Seilrollen

Zum Reinigen von Kopf, Andruckrolle und Tonwelle kann auch die "drop-in"-Cassette SBC114-4822 389 20035 benutzt werden.

### **2. Schmierung**

- Siehe Explosionsansicht.

## **(I) MANUTENZIONE**

La meccanica del registratore richiede pulizie periodiche, come pure periodiche lubrificazioni dei punti principali.

### **1. Pulizia con alcool o spirito**

- Testina di riproduzione
- Capstan & rullo pressore
- Cinghie & puleggie

Per la pulizia della testina, del rullo pressore e del capstan si può usare la cassetta "drop-in" SBC114-4822 389 20035.

### **2. Lubrificazione**

- Vedere esploso.

## **(GB) ADJUSTMENTS AND CHECKS**

Equipment required:

- Universal test cassette SBC419 4822 397 30069
- Universal test cassette SBC420 4822 397 30071
- Friction test cassette 811/CTM 4822 395 30054
- Spring scale 50-500g 4822 395 80028
- Wow & flutter meter
- AC millivoltmeters

### **1. Azimuth (Fig. 1)**

Azimuth alignment should be carried out on a complete car radio; proceed as follows:

- Connect the millivoltmeters to the loudspeaker outputs.
- Insert test cassette SBC419 (or SBC420), select NOR (normal play) and play the 10kHz signal.
- Adjust Azimuth screw "A" for equal and maximum output voltage reading for both RH and LH channel.
- Switch to REV (reverse play) and play the 10kHz signal.
- Repeat the adjustment with screw "B"

### **2. Friction clutch 55**

- Insert friction test cassette 811/CTM (NOR and REV).
- Play take-up torque should be 35 - 75g/cm.
- Fast wind torque should be 40 - 150g/cm.
- If the torque is not correct, replace clutch 55.

### **3. Wow & flutter/tape speed (Fig. 1)**

This check is carried out on an complete car radio; proceed as follows:

- Connect the wow & flutter meter to the LS outputs
  - Insert test cassette SBC419 (or SBC420) and play the 3150Hz signal
  - The wow & flutter value should be 0.35%
  - Tape speed should be 4.76cm/sec. 2%
  - The tape speed can be adjusted with screw "C"
- In case of an excessive wow & flutter value, check following parts for correct functioning:
- motor 56
  - pressuer rollers 62, 84
  - belts 63, 93
  - friction clutches 55
  - flywheels 92, 94
  - pulley 71

## **(NL) INSTELLINGEN EN CONTROLES**

### **Benodigde meetinstrumenten:**

- |                                  |                |
|----------------------------------|----------------|
| - Universele testcassette SBC419 | 4822 397 30069 |
| - Universele testcassette SBC420 | 4822 397 30071 |
| - Frictie testcassette 811/CTM   | 4822 395 30054 |
| - Veerdrukmeter 50-500g          | 4822 395 80028 |
| - Wow & flutter meter            |                |
| - AC millivoltmeters             |                |

### **1. Azimuth (fig. 1)**

De Azimuth instelling dient te geschieden bij de komplette autoradio en wel als volgt:

- Sluit de millivoltmeters aan op de LS-uitgangen.
- Breng testcassette SBC419 (of SBC420) in, kies NOR (normaal afspelen) en geef het 10kHz-signaal weer.
- Stel met schroef "A" de uitgangsspanning zo in, dat deze voor zowel linker- als rechterkanaal gelijk en maximaal is.
- Schakel over naar REV (omgekeerd afspelen) en geef het 10kHz-signaal weer.
- Herhaal de instelling met schroef "B".

### **2. Frictie 55**

- Breng testcassette 811/CTM in (NOR en REV).
- De afspeelfrictie moet 35 - 75g/cm zijn.
- De snelspoelfrictie moet 40 - 150g/cm zijn.
- Indien de waarde niet juist is moet frictie 55 worden vervangen.

### **3. Wow & flutter/bandsnelheid (fig. 1)**

Kontrolle moet worden gedaan bij een complete autoradio en wel als volgt:

- Sluit wow & flutter meter aan op de LS-uitgangen.
- Breng testcassette SBC419 (of SBC420) in en geef het 3150Hz-signaal weer.
- De jengel moet 0,35% zijn.
- De bandsnelheid moet 4,76cm/sec 2% zijn.
- De snelheid is instelbaar met schroef "C".

Bij een buitensporige waarde moeten de volgende onderdelen op hun juiste werking worden gecontroleerd:

- Motor 56
- Drukrollen 62, 84
- Snaren 63, 93
- Fricties 55
- Vliegwielen 92, 94
- Poelie 71

## **(F) REGLAGES ET CONTROLES**

### **Instruments requis**

- |  |                |
|--|----------------|
| - Cassette d'essai universelle SBC419    | 4822 397 30069 |
| - Cassette d'essai universelle SBC420    | 4822 397 30071 |
| - Cassette d'essai de friction 811/CTM   | 4822 395 30054 |
| - Dynamomètre 50-500g                    | 4822 395 80028 |
| - Instrument du pleurage & scintillement |                |
| - Millivoltmètre en alternatif           |                |

### **1. L'azimuth (fig. 1)**

Le réglage de l'azimuth devra être effectué lorsque l'auto-radio est au complet; procéder comme suit:

- Brancher les millivoltmètres sur les sorties h-p.
- Insérer la cassette d'essai SBC419 (ou SBC420), sélectionner NOR (défilement normal) et reproduire le signal de 10kHz.
- Régler la tension de sortie à l'aide de la vis "A" de façon qu'elle soit égale et au max. pour le canal de gauche tout comme celui de droite.
- Sélectionner REV (défilement inversé) et reproduire le signal de 10kHz.
- Répéter le réglage à l'aide de la vis "B".

### **2. Friction 55**

- Introduire la cassette d'essai 811/CTM (NOR et REV).
- La friction de défilement doit être 35 - 75g/cm.
- La friction au bobinage rapide doit être 40 - 150g/cm.
- Si la valeur est inexacte, remplacer la friction 55.

### **3. Pleurage et scintillement/vitesse de bande (fig. 1)**

Le contrôle devra être effectué lorsque l'auto-radio est au complet; procéder comme suit:

- Brancher l'instrument du pleurage sur les sorties h-p.
- Introduire la cassette d'essai SBC419 (ou SBC420) et reproduire le signal de 3150Hz.
- La valeur de pleurage doit être 0,35%.
- La vitesse de bande doit être 4,76cm/sec 2%.
- La vitesse est réglable avec vis "C".

Si le taux de pleurage est dépassé, il faut vérifier le fonctionnement des composants suivants:

- moteur 56
- galets presseur 62, 84
- courroies 63, 93
- couple de friction 55
- volants 92, 94
- poulie 71

## D EINSTELLUNGEN UND KONTROLLEN

### Benötigte Messgeräte:

- Universal-Testcassette SBC419	4822 397 30069
- Universal-Testcassette SBC420	4822 397 30071
- Friktionstestcassette 811/CTM	4822 395 30054
- Federwaage 50-500p	4822 395 80028
- Gleichlaufanalysator	
- Wechselspannungs-Millivoltmeter	

### 1. Azimuth (Bild 1)

Die Azimutheinstellung soll mit dem kompletten Autoradio stattfinden und zwar wie folgt:

- Millivoltmeter an die Lautsprecherausgänge schalten.
- Testcassette SBC419 (oder SBC420) einlegen, NOR (normal spielen) wählen und das 10kHz-Signal wiedergeben.
- Mit Schraube "A" die Ausgangsspannung so einstellen, dass sie für sowohl den linken als auch den rechten Kanal gleich ist und den Höchstwert aufweist.
- Auf REV (umgekehrt spielen) schalten und das 10kHz-Signal wiedergeben.
- Die Einstellung mit Schraube "B" wiederholen.

### 2. Reibkupplung 55

- Friktionstestcassette 811/CTM einlegen (NOR und REV).
- Die VL-Friktion soll 35 - 75p/cm sein.
- Die SVL-Friktion soll 40 - 150p/cm sein.
- Falls der Wert nicht richtig ist, muss Friktion 55 ersetzt werden.

### 3. Gleichlaufschwankungen/Bandgeschwindigkeit (Bild 1)

Die Kontrolle soll mit dem kompletten Autoradio wie folgt vorgenommen werden:

- Gleichlaufanalysator an die LS-Ausgänge schalten.
  - Testcassette SBC419 (oder SBC420) einlegen und das 3150Hz-Signal wiedergeben.
  - Der Jaulwert soll 0,35% sein.
  - Die Bandgeschwindigkeit soll 4,76cm/s 2% sein.
  - Die Geschwindigkeit ist einstellbar mit Schraube "C".
- Bei einem übermäßigen Jaulwert folgende Teile auf ihr richtiges Funktionieren kontrollieren:
- Motor 56
  - Andruckrollen 62, 84
  - Pesen 63, 93
  - Friktion 55
  - Schwungräder 92, 94
  - Seilrad 71

## I REGOLAZIONI E CONTROLLI

### Strumenti richiesti:

- Cassetta test universale SBC419	4822 397 30069
- Cassetta test universale SBC420	4822 397 30071
- Cassetta test per la frizione 811/CTM	4822 395 30054
- Dinamometro 50-500gr	4822 395 80028
- Strumento wow & flutter	
- Millivoltmetro AC	

### 1. Azimuth (fig. 1)

La regolazione dell'azimuth deve essere eseguito quando l'autoradio è completa e ciò nel seguente modo:

- Collegare un mV-metro all'uscita per altoparlante.
- Inserire cassetta test SBC419 (o SBC420), selezionare NOR ("normal play") e riprodurre il segnale a 10kHz.
- Ruotare la vite "A" finché la tensione letta per entrambi i canali sia la più elevata.
- Selezionare REV ("reverse play") e riprodurre il segnale a 10kHz.
- Selezionare la funzione Reverse e ripetere la taratura dell'azimuth utilizzando la vite "B".

### 2. Forza della frizione 55

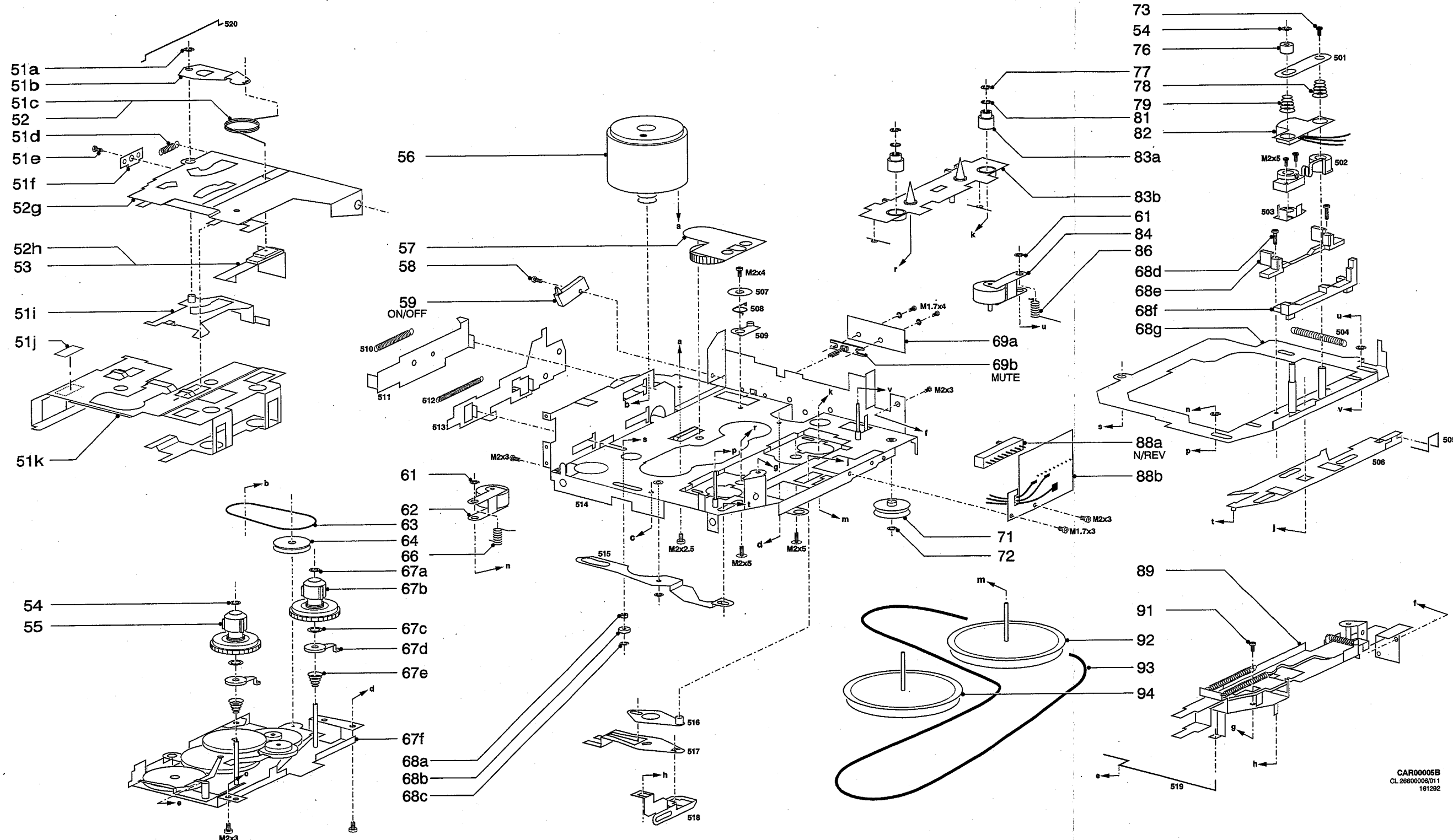
- Inserire la cassetta 811/CTM (NOR e REV).
- La forza in Play deve essere 35 - 75gr/cm, in avvolgimento veloce 40 - 150gr/cm.
- Se la forza non è corretta sostituire la frizione 55.

### 3. Wow e flutter/velocità del nastro (fig. 1)

Questo controllo deve essere eseguito quando l'autoradio

è completa e ciò in maniera seguente:

- Collegare il misatore di Wow e flutter all'uscita per altoparlante.
  - Inserire la cassetta test SBC419 (o SBC420) e riprodurre il segnale a 3150Hz.
  - Il valore di Wow e flutter deve essere 0,35%.
  - La velocità deve essere 4,76cm/sec 2%.
  - La velocità può essere regolato con la vite "C".
- Nel caso ci sia un valore eccessivo di Wow e flutter, bisogna controllare le seguenti parti se funzionano in modo corretto:
- Motore 56
  - Rullo pressore 62, 84
  - Cinghia di trascinamento 63, 93
  - Frizione 55
  - Volano 92, 94
  - Puleggia 71



PCS 67 788

51	4822 256 91894	Cassette holder (compl.)	62	4822 528 81469	Pressure roller, REV	76	4822 532 21456	Bushing for head	89	4822 404 21254	Lever unit, FW/FRW
52	4822 492 42601	Torsion spring	63	4822 358 31182	Belt, small	77	4822 530 70447	Ret. ring 1.6x3.2	91	4822 502 13968	Screw M2x4
53	4822 403 53313	Cassette guide	64	4822 522 33229	Pulley gear	78	4822 492 52301	Spring for head, R	92	4822 528 60395	Flywheel, NOR
54	4822 532 51953	Washer 1.6x0.25	65	4822 492 42599	Torsion spring, REV	79	4822 492 52302	Spring for head, L	93	4822 358 31181	Belt, large
55	4822 528 10845	Carrier (compl.)	66	4822 528 10862	Gear unit	81	4822 532 51955	Washer 2.1x3.5	94	4822 528 60406	Flywheel, REV
56	4822 361 30393	Motor	67			82	4822 249 30183	Playback head		4822 701 12727	Deck complete CDS-36MH3
57	4822 522 33228	Idler arm (compl.)	68	4822 459 80764	Head support	83	4822 466 82998	Bearing plate			
58	4822 502 13967	Screw M1.7x6	69	4822 278 90722	Mute switch (with pcb)	84	4822 528 81471	Pressure roller, NOR			
59	4822 277 21603	On/off switch	71	4822 528 81468	Pulley	86	4822 492 42598	Torsion spring, NOR			
61	4822 532 11631	Ret. ring 1.5	72	4822 532 51952	Washer 1.2x0.25	88	4822 277 21655	NOR/REV switch (with pcb)			
			73	4822 502 13969	Screw fix head R, M2x4						

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**Last minute change: lubrication instructions will be given in a Service Information.**

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.